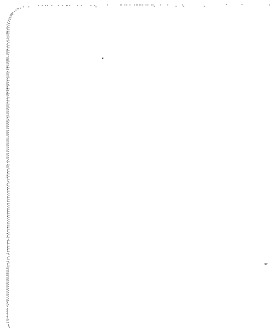


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**STAUFFER CHEMICAL COMPANY**  
**Niagara Falls, New York**  
**MAJOR EMERGENCY PLAN**  
**January, 1971**

CALL LIST - MAJOR EMERGENCY PLAN - STAUFFER CHEMICAL COMPANY, NIAGARA FALLS, NEW YORK

G E N E R A L

Call → Baney (208) → Butcher (273) → Willingham (241) → Laehy (200)  
282-1159 754-7620 745-9998 745-3520  
→ Purcell (221) → Verna (268) → Houtz (230)  
754-7550 297-6731 297-4988  
→ Foster (237)  
297-3259

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CARBON TETRACHLORIDE

Call → Willingham (241) → Orsini (277) → Dominski (236,242)  
745-9998 745-3554 297-3872  
(1) → Baney (208) → Laehy (200)  
282-1159 745-3520  
→ Foster (237)  
297-3259  
→ Purcell (221) → Verna (268) → Houtz (230)  
754-7550 297-6731 297-4988

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CHLORINE-CAUSTIC

Call → Willingham (241) → Bushman (261) → Kephart (256) → Gansworth (256) → Phelan (261)  
745-9998 773-5670 283-1685 297-3829 1-EL41368  
→ FOLLOW (1) UNDER CARBON TETRACHLORIDE ABOVE

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BOILER HOUSE

Call → Verna (268) → Theis (245)  
297-6731 236-0197  
→ FOLLOW (1) UNDER CARBON TETRACHLORIDE ABOVE

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METAL CHLORIDES

Call → Butcher (273) → Maas (269) → Johns (279) → Jensen (265)  
754-7620 745-7074 283-0882 754-7112  
→ FOLLOW (1) UNDER CARBON TETRACHLORIDE ABOVE

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# I N D E X

	<u>SECTION</u>
MAJOR EMERGENCY PLAN - GENERAL DATA & GAS MASK IDENTIFICATION .....	I
CARBON TETRACHLORIDE AREA .....	II
CHLORINE-CAUSTIC-STEAM AREA .....	III
METAL CHLORIDES AREA .....	IV
FIRE FIGHTING PLAN .....	V
PHONE LISTS AND ADDRESSES - EMERGENCY & PERSONNEL ....	VI
EMERGENCY EQUIPMENT, MASKS, FIRST AID LOCATIONS, SHIFT CREWS AND FIRST AID TRAINEES .....	VII



## MAJOR EMERGENCY PLAN

## STAUFFER CHEMICAL COMPANY - NIAGARA FALLS PLANT

I. INTRODUCTION

This plan provides a framework of action for coping with a major plant emergency that cannot be effectively controlled by personnel or equipment on hand. Such an emergency may originate as:

1. Conditions causing or threatening serious fires or explosions.
2. Toxic chemicals release.
3. Major damage to plant by outside agency (air crash, lightning, earthquake, storms, etc.)
4. Building or structural failure threatening damages cited above.

Refer to separate sections of this plan for an emergency in the specific operating areas (Carbon Tetrachloride, Chlorine-Caustic, Metal Chlorides).

II. OBJECTIVE

1. To safeguard the well being of plant personnel, and neighboring homes, and installations.
2. To minimize destruction of plant property and equipment.
3. To minimize losses in production by expediting safe resumption of operations.
4. To effect coordinated action with outside agencies whose assistance is required (Fire, Police, Civil Defense, Medical, etc.)

III. RESPONSIBILITY FOR MAJOR EMERGENCY PLAN

The Administrative Superintendent will serve as the Disaster Officer - All committee members are expected to be qualified to serve as an Alternate Disaster Officer. The duties of the Disaster Officer include: Coordination of all M.E.P. activities, Direction of M.E.P. execution at time of disaster, and Chairmanship of M.E.P. Committee. The committee will be composed of the Plant Manager, Superintendent of Engineering, Superintendent of Maintenance, Area Superintendents, Area Supervisors, and N.I.E.C. Representative.

IV. ACTION IN EVENT OF MAJOR EMERGENCY

1. Initially, the Shift Foreman assumes all authority until the Disaster Officer, or a member of the M.E.P. Committee arrives on the scene.
2. Sounding of Alarm
  - a. Any employee may turn in the alarm when a Major Emergency (as defined under Introduction) occurs. Employees will be so instructed.
  - b. If in doubt about the gravity of an emergency - Sound The Alarm.
  - c. The existing Fire Alarm will be used normally.

Depress the "On" button until siren reaches full pitch, then depress the "Off" button. Repeat a second time. Proceed to N.W. corner of Building 14C (Electric Shop). If this location untenable, go to Shift Foremen's Office, Building 27. All men who can leave their posts will report to these areas in the order named. SMC-789 0626

IV. ACTION IN EVENT OF MAJOR EMERGENCY (continued)

- d. If the Fire Alarm System is inoperable, signal M.E. by a rapid series (10 or more) on Autocall buttons at Shift Leaders' Office or Guard House.
  - e. In the event that both the above are inoperative, sound the Boiler House whistle in a series of short blasts - 10 or more.
3. Headquarters for direction of M.E. Plan will be:
- First - Building #27 - Shift Foremen's Office
  - Alternate - Building #53 - Metal Chlorides Office
4. If outside Fire Department needed, call Upper Mountain Fire Co. - 297-1441  
If busy, call Sheriff's Department at BU 5-5355. Sheriff's Dept. has direct connections with all fire companies in county.  
As a third alternative, call State Police at 297-0755
5. Care for Injured - Account for Personnel - Alert Guard at Gate  
(The Shift Personnel Roster indicates men trained in First Aid)  
Inform hospitals on number of injured being sent, and types of injury.
6. Safeguard Property and Processes.
7. Call lead names in call list for emergencies in specific areas. The lead men called will call others on list as required.
8. Niagara Industrial Emergency Council  
The members of the M.E.P. Committee, and other holders of this brochure will also receive a treatise entitled "Pertinent Data on Operation of the Niagara Industrial Emergency Council and Traffic Control Plans". This treatise will be kept with, and be considered an integral part of, the M.E.P. This treatise contains a map of our zone, emergency road block plans, with instructions, and a description of the Mutual Aid Plan between member companies, with instructions. Any member of the M.E.P. Committee, or the Shift Foremen, can put this Mutual Aid Plan into operation when required.
9. Disaster Officer's Duties
- a. Check on steps being taken to care for injured.
  - b. Check on steps being taken to control emergency.
  - c. See that enough qualified supervisory personnel are on hand.
  - d. Check on what threat the emergency represents to the neighboring areas, and decide on the necessity of evacuation.
  - e. Issue directions on what operations to shut down.
  - f. Arrange for notification of the families of the injured.  
(SPI Bulletin 8-60).
  - g. Inspect disaster area and ascertain the cause, extent, and nature of the damage.

IV. ACTION IN EVENT OF MAJOR EMERGENCY (continued)

h. Notify:

- (1) Plant Manager, or Eastern Production Manager (if plant manager not available).
- (2) Stauffer Insurance Department.

i. In the absence of the Plant Manager, release factual information to news agencies. Normally the Plant Manager will release information on the nature of the disaster.

j. Direct resumption of operations when emergency has been subdued.



GAS MASK CANISTER IDENTIFICATION

YELLOW	Acid Gases and Organic Vapors. Chlorine, Sulfur Chloride, C.T.C., CS <sub>2</sub> .
BROWN	Acid Gases and Organic Vapors, <u>plus</u> Ammonia
BLACK	Organic Vapors: CS <sub>2</sub> , C.T.C., Paints
RED	Acid Gases, Organic Vapors, Ammonia, <u>plus</u> CO. Described as "All Purpose".

All rated for approximately 2% concentration.

2-15-67

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Rev. 1/25/71



MAJOR EMERGENCY PLAN  
CARBON TETRACHLORIDE AREA

- I      SUPERVISORY PERSONNEL
- II     RESPONSIBILITY
- III    GENERAL OUTLINE OF POTENTIAL HAZARDS
- IV    INSTRUCTIONS FOR VARIOUS EMERGENCY CONDITIONS
- V     LOCATION OF DEPARTMENTAL SAFETY AND EMERGENCY EQUIPMENT

I. CALL LIST - MAJOR EMERGENCY PLAN

SEE CALL LIST LOCATED AT FRONT OF BOOK.

## II. RESPONSIBILITY - ALL AREAS

The basic responsibility for any department lies with the area Superintendent, Supervisors, and Foremen. The Disaster Officer will make certain over-all decisions when necessary, but, whenever possible, he will work from information and advice given to him by Departmental personnel. The departmental Supervisors and Operating Foremen will be relied on to take the lead in the control and reduction of the emergency.

The Shift Foreman is in charge of the plant during afternoon and midnight shifts, and all day Saturdays, Sundays, and holidays. In the event of an emergency, he will be notified immediately by departmental personnel. He will initiate necessary corrective steps to meet the emergency, activating the M.E. Plan if called for.

Operators in each department will shut down operations, and assist in the emergency areas as directed by supervision.

The Shift Foreman assumes all duties of the Disaster Officer until either the Disaster Officer, or a member of the M.E. Committee, arrives on the scene.

### III. GENERAL OUTLINE OF POTENTIAL HAZARDS

Among the potential hazards in the Carbon Tetrachloride Area are:

1. Fires involving Carbon Bisulfide
2. Fires involving Sulfur
3. Heavy fume emissions from chlorine leakages.
4. Vent upsets.
5. Sulfur Chloride spillages by rupture of pipes, tanks, or tank cars.

The most likely occurrence is fire involving Carbon Bisulfide, either in the process proper, the Carbon Bisulfide process piping, or storage tanks.

When fire occurs in the CTC Department, the Carbon Bisulfide system should be shut down immediately, and fire alarm sounded.

The CS<sub>2</sub> pumping system can only be started in the CTC Department by the "A" Operator, or at the pond. The pumps can be stopped at these same locations. These pumps can also be stopped, but not started, at a third location inside of Building 6A - the Shift Leader's Office.

There are two CS<sub>2</sub> Feed lines to CTC. There are emergency shut-off valves in each line near #2 Siding, north of Sulfur Tank 5501. These valves are identified by a sign. Shut both valves in case of fire. These valves should be closed and opened once per week by supervision, and so noted in the log.

Carbon Tetrachloride is protected by a dry Sprinkler System, automatically actuated by fusible sprinkler heads.

Sketches showing pertinent safety features follow.

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Rev. 1/25/71

IV. EMERGENCY PROCEDURE INSTRUCTIONS

<u>Emergency</u>	<u>Hazard</u>	<u>Corrective Measures</u>
Power Failure	Fumes at Pots Vent Spillages	Shut steam off at Pots. Shut off steam and bleed traps on Distillation Columns and Purifiers. Switch to Emergency Power Feeder in Bldg. 7. Switch is labeled. Pull Down. This supplies power for stack blowers and vent tank pump thru Substation #6.
Loss of Cooling Water	Spillage at vents in CTC and Chlorinators.	Shut CTC down, treat equipment, shut steam off all distillation equipment.
Fire - CTC Tank Farm Area	Fumes, personal injury, destruction of property.	Sound Fire Alarm. Shut off CS2 to CTC Area. Stop CS2 pumps at pond by switches in Shift Leaders' Office. Close emergency CS2 plug cocks S.W. of Salvage Bldg. Fire Crews assemble as per plant practice. If necessary to shut off power, use Switch #4 in Substation #7, Bldg. 5. This will cut power to CTC and Sulfur Departments. Switch marked "CTC"
Tank Failure	Fumes, Fires	
A. Chlorinator		
1. Above Liquor Level		Stop gassing of Chlorinator. Cool Chlorinator. Reduce pressure in tank. Transfer contents.
2. Below Liquor Level		Follow above procedure if possible. Plug hole to minimize escape of liquor.
B. Sulfur Chloride Tanks		Shut off gas feeds, vent tank, wash down escaping material.
VPD Column Leak	Fumes, Fires	Close CS2 and Sulfur Chloride Feed Valves at Columns. Close Emergency CS2 Plug Cocks.

In all cases where major fume, fire or equipment hazards exist, notify Supervisory Personnel as soon as possible.

LEAKING CS2 TANK CAR

Although there is no one positive manner in which a leaking CS2 tank car should be handled, the following outline covers the various procedures possible. Which specific procedure should be used for a particular car would be a matter of judgement based on the actual specific condition prevailing at that time.

Since the danger of fire or explosion is always present with CS2, all work and decisions must take this into account before all other considerations.

1. LEAK IN CAR ABOVE LIQUID LEVEL (In warm weather, open vent to release any pressure build-up.)

- (a) Stop leak by caulking with lead wool or cell putty or Permatex and/or covering with sheet rubber and banding.

Note: Smearing with soap may be effective on hairline cracks.

- (b) Have car moved to plant for unloading.

- (c) If leak cannot be stopped by above methods, it must, if possible, be minimized and arrangements made to transfer contents on the spot.

2. LEAK IN CAR BELOW LIQUID LEVEL - Same procedure as above.

3. TRANSFERRING OR UNLOADING LEAKING CAR

- (a) Pressurizing using either nitrogen or water

- (1) Will depend on size of break, availability of nitrogen and water and outside temperature.

- (b) Pumping using any available electric motor driven pump.

Note: Gasoline engine driven pumps should not be used under any conditions due to the fire hazard.

4. SAFETY PRECAUTIONS

- (a) Portable dry chemical type extinguishers available.
- (b) Have car isolated insofar as possible and cordon off area.
- (c) Keep people in vicinity of car to only those necessary to repair leak and/or transfer.
- (d) Avoid excessive inhalation of fumes, use mask as necessary.
- (e) Have fire fighting equipment stand by (normally a local fire department) during any transfer operation.
- (f) Use spark proof tools only, in any caulking operation. (Wood is a good substitute for regular bronze tools.)
- (g) If fire should occur, use maximum water flow available.

5. TOOLS AND EQUIPMENT WHICH MAY BE NEEDED TO STOP LEAK AND/OR TRANSFER

- (a) Portable fire extinguishers, spark-proof caulking tools, leak wool, soap, Permatex, extra rupture discs, rubber sheet gasket material, banding, cell putty, hoses with quick couplings, extension cords, wrenches, copper tubing & fittings, gas masks,

Note: An emergency kit containing all tools & material necessary for stopping a leak is available in maintenance shop office. Safety and transfer equipment is not included.

- (b) Usually, it will be impossible to decide if leak is stoppable or not, or if transfer will be necessary until car is examined. Obviously, any arrangement to transfer with nitrogen would have to be delayed until after preliminary on-the-spot inspection. (See separate sheet for description of Repair Kit)



## CS2 EMERGENCY TANK CAR TEMPORARY REPAIR KIT

(LOCATED - PIPE SHOP OFFICE)

- 1 Piece of 3' x 6' Red Rubber Gasket Material
- 12 Bars Fels-Naptha Soap
  
- 10# Lead Wool
- 100' Sash Cord
- 6 Small Carbo-Fix (C) (Epoxy) Kits
- 1 Chisel Holder
- 1 Band-it Machine
  
- 6 Tubes of Permatex (fast drying - hard setting) #1
- 5 Strips of Cell Putty 2' long each
- 3# Asbestos Wick Packing
  
- 200' 3/8" Stainless Steel Band-it Material
- 200' 3/8" Band-it Buckles
  
- 100' Extension Cord with Ground Attachment and 3-prong to 2-prong adaptor and light brass tools.
  
- 1 24" Pipe Wrench
- 1 18" Pipe Wrench
- 1 Pr. 6" Pliers
- 1 Pr. Channel Locks
- 1 10" Crescent Wrench
- 1 Wedge
- 2 Wire Brushes
- 1 Putty Knife
- 2 Cope Chisels
- 5 Cutting Chisels
- 1 Scraper
- 2 Drifts
- 2 Spud Wrenches
- 1 Hammer
- 1 Screw Driver
- 1 Box Wrench - 7/8" x 1-1/16"
- 1 Box Wrench - 1-1/16" x 1-1/4"
- 1 Complete Socket Set

NOTE: See separate sheet for procedure on handling CS2 tank car leak.

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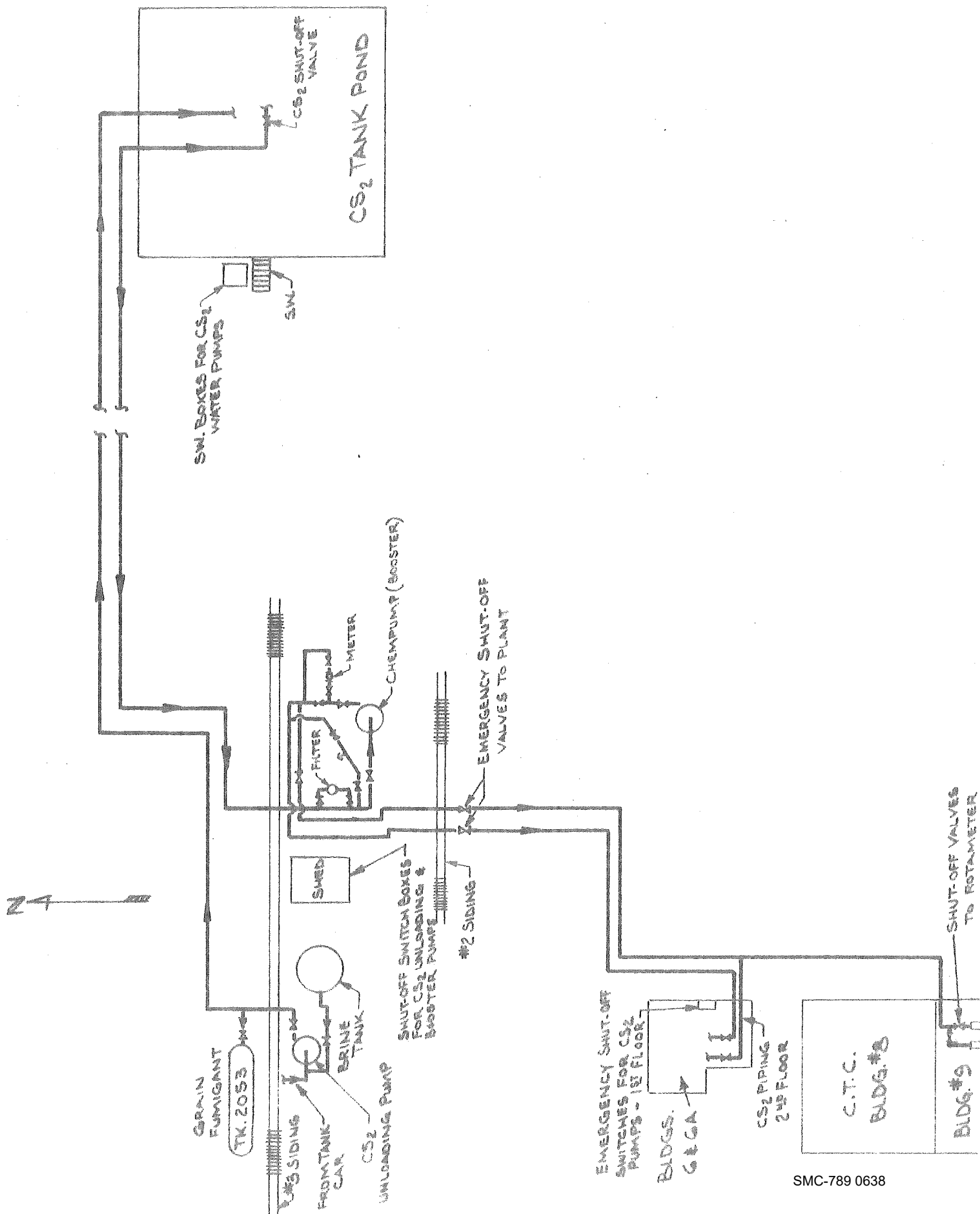
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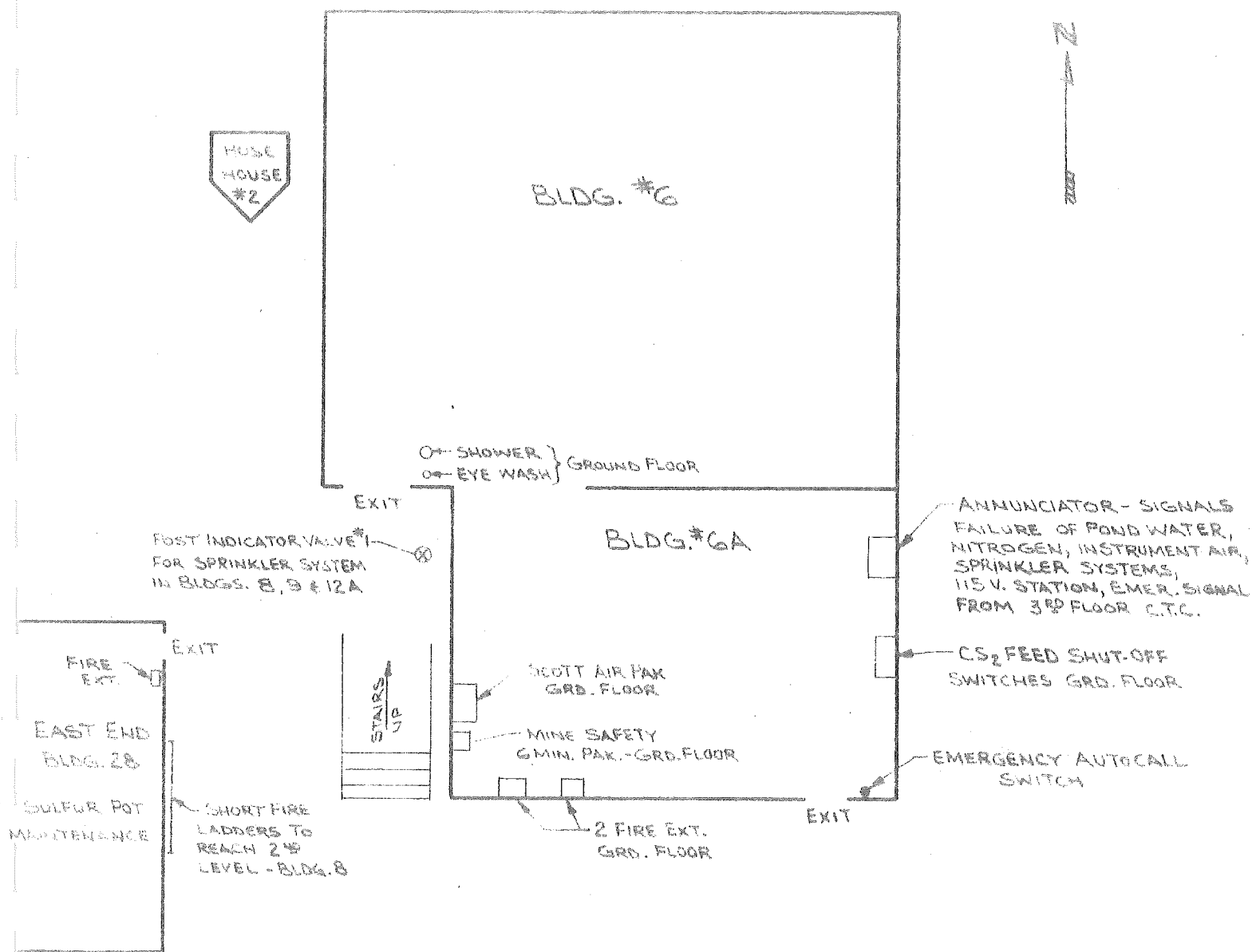
SUBJECT CS<sub>2</sub> SYSTEM FOR C.T.C.

SHEET NO. 2 OF 8

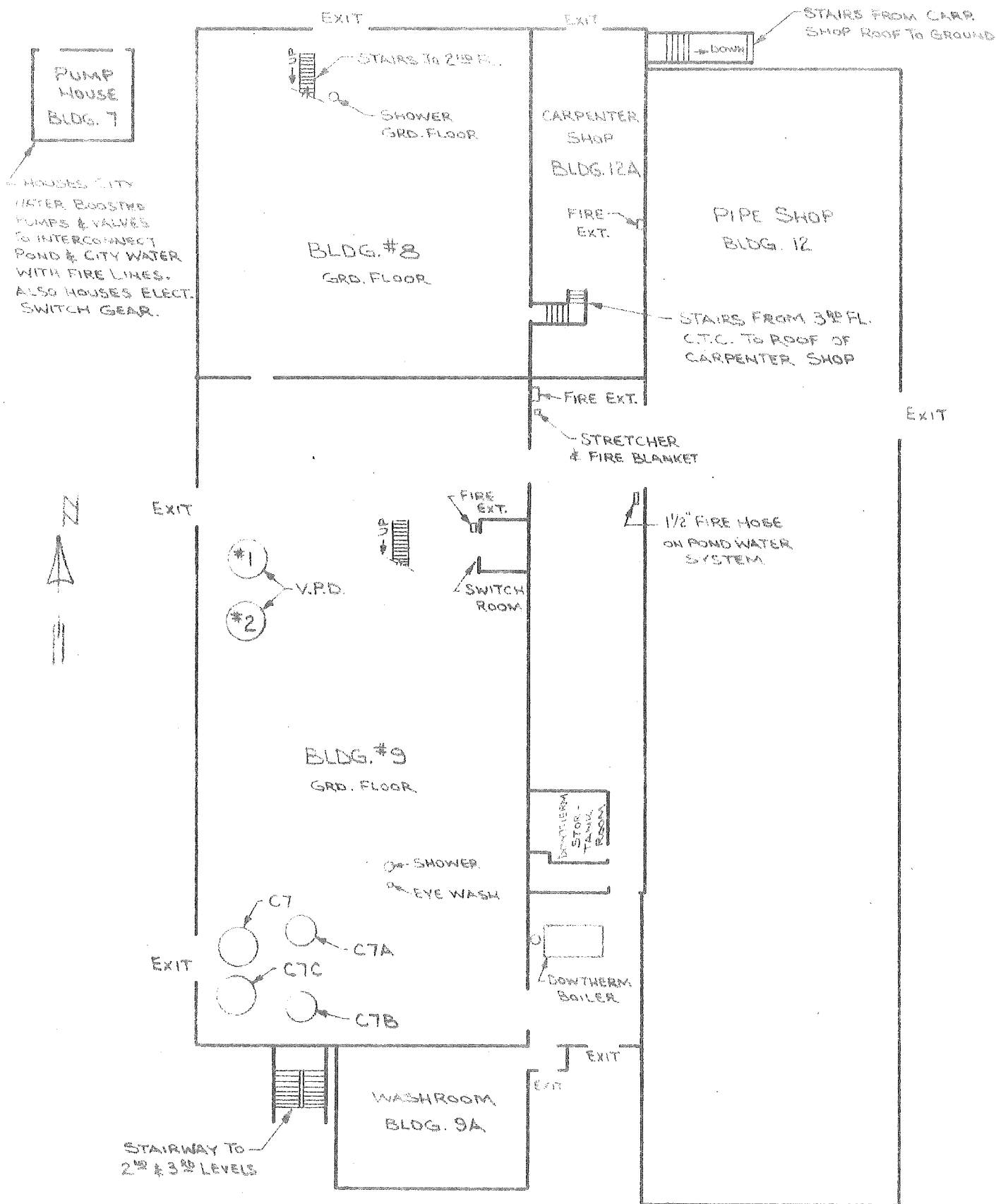
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JOB NO.

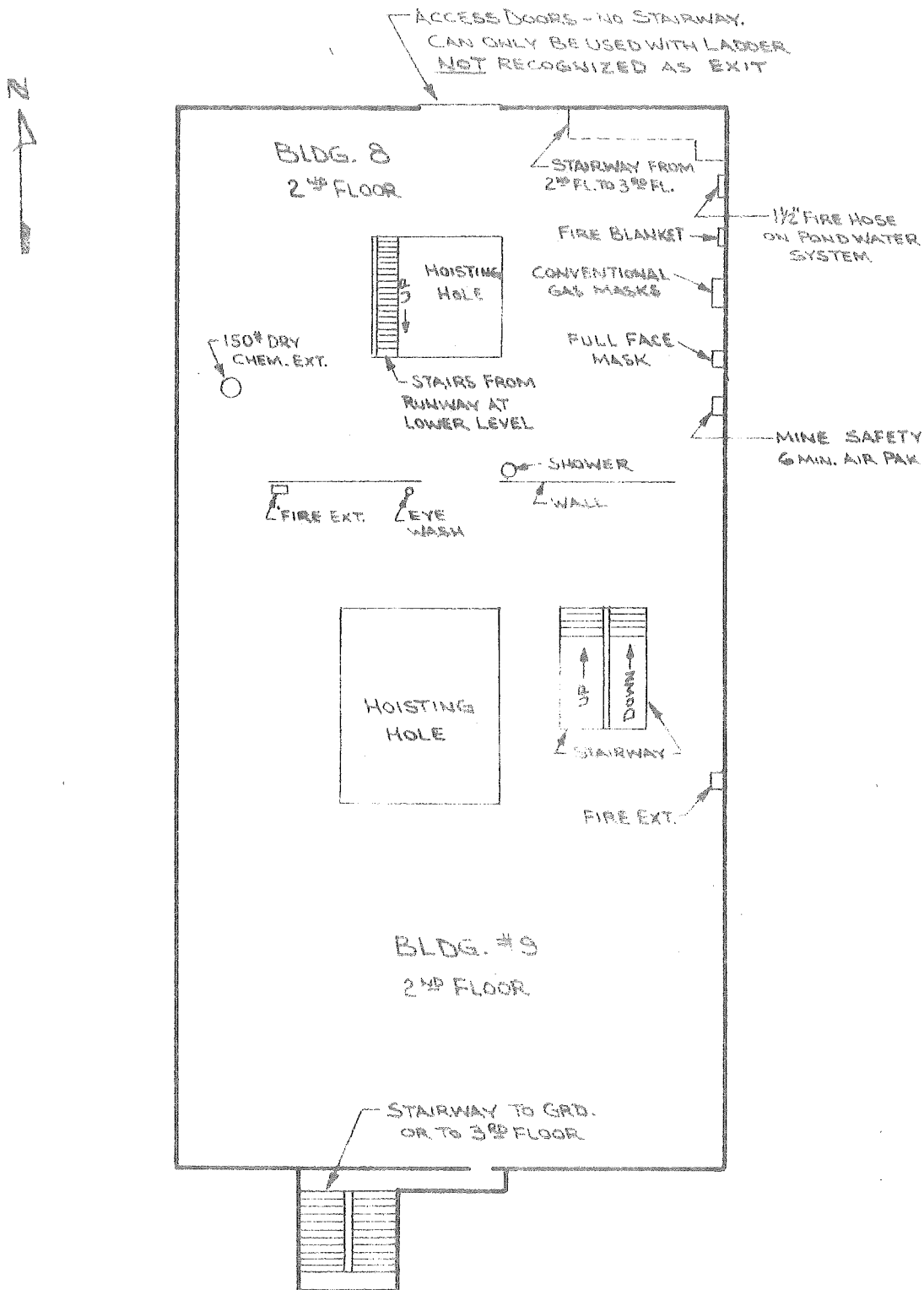


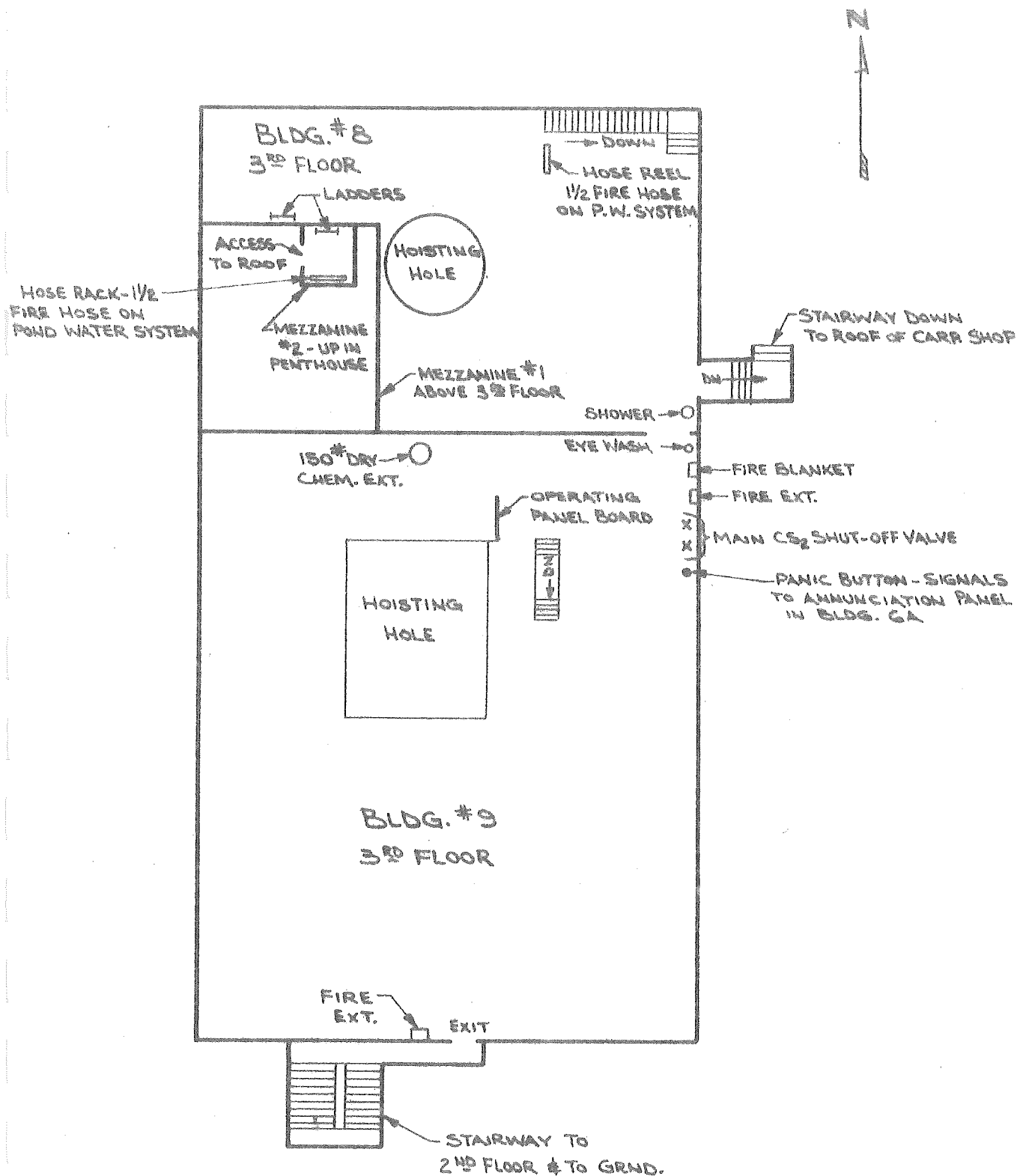


2<sup>ND</sup> FLOOR - PIPING & VALVING FOR CHLORINATORS,  
CHLORINE & CS<sub>2</sub> FEED VALVES TO CHLORINATORS.



C.T.C. DEPT.  
2<sup>ND</sup> FLOOR PLAN  
BLDG. 8 & 9





3

MAJOR EMERGENCY PLAN

CHLORINE - CAUSTIC - STEAM AREA

- I SUPERVISORY PERSONNEL
- II RESPONSIBILITY
- III EMERGENCY PROCEDURES
- IV LOCATION OF EMERGENCY EQUIPMENT



I. CALL LIST - MAJOR EMERGENCY PLAN

SEE CALL LIST LOCATED AT FRONT OF BOOK.

## II. RESPONSIBILITY - ALL AREAS

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Operators in each department will shut down operations, and assist in the emergency areas as directed by supervision.

The Shift Foreman assumes all duties of the Disaster Officer until either the Disaster Officer, or a member of the M.E. Committee, arrives on the scene.

Nature of Emergency	Hazard	Countermeasures
Power Failure	Loss of steam pressure, no cooling water, no power to cells and Nash pumps, loss of compressed air.	Close main steam header valves at boilers, and bank fires. Check that gas boiler is safely shut off. If Emergency Power is available, get one boiler running and fire pump running as a Pond Water Pump. Put Evaporators and Rayon Grade reactor on stand-by. Stopper up Cells. Close Chlorine valves to CTC. Close valves to hold pressure on Nash Chlorine Pumps.
Acid Tower Explosion	H <sub>2</sub> SO <sub>4</sub> , flying debris, Chlorine Gas.	Shut down Cell Houses and stopper up. Turn off acid, wash down.
Cell Explosion	Fire, flying debris, Chlorine Gas, H <sub>2</sub> .	Shut down Cell House.
Boiler Blow-ups.	High pressure steam and hot water, flying debris, fire, hot coal, escaping H <sub>2</sub> . Escaping smoke and coal gas.	Try to stop leaking of steam and hot water. Cut off Hydrogen at source. May require complete plant shut-down to control. Stop stokers, fans and drop fires to ash pits.
Rupture of Rayon Reactor	High pressure hot liquid caustic and ammonia, fumes, fire, possible explosion.	Evacuate area and if possible, shut down feed pumps and boiler. Try to put reactor process under suction while area is hosed down. If not closed, shut off feed to flash tank.
Caustic, Brine, Cell Liquor tank failure.	Presence of hot corrosive chemicals.	Evacuate area and notify proper area people. Hose down area to dilute chemicals. Try to direct flow of liquids to ditch or sewer. Evaluate and repair tank.
Fire	Dangerous area. Evaluate as to surrounding conditions and their proximity to the fire. Low water pressure in plant.	Sound Alarm. Depending on nature and magnitude of fire, shut down necessary areas and lend assistance under proper direction to the fire fighters. Maintain boilers if possible. Watch water levels and pressures. Notify all affected areas.  In case of fire, chlorine containers should be removed from the fire zone immediately. Tank cars should be disconnected and pulled out of the danger area. If no chlorine is escaping, water should be applied to cool containers that cannot be moved. All unauthorized persons should be kept at a safe distance.

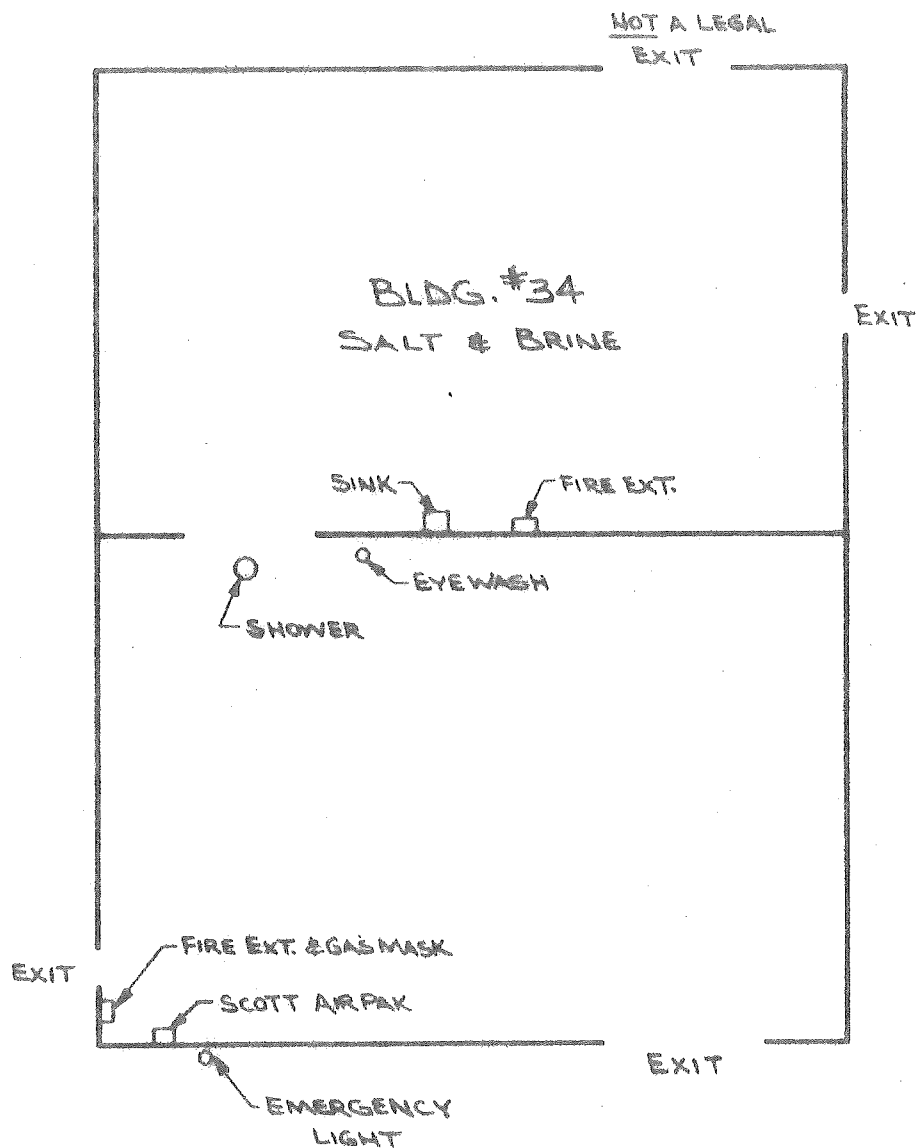
III EMERGENCY PROCEDURE INSTRUCTIONS (continued)

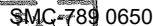
Of prime importance in the event of a major chlorine leak are the people in the immediate and surrounding area. Authorities (e.g., Sheriff's Department and State Police) should be notified so that these people may be moved to safety.

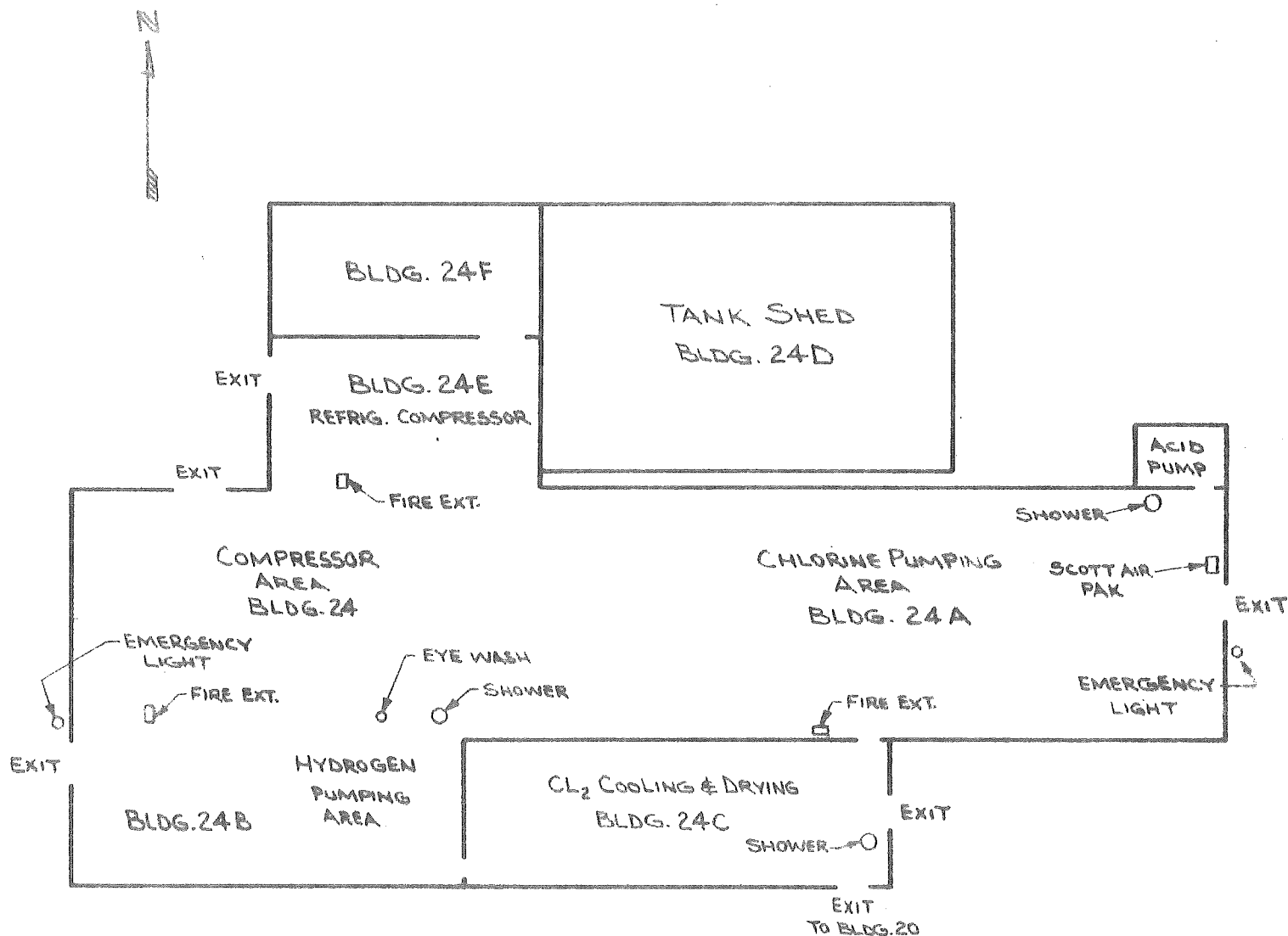
- Leaking liquid chlorine incidents may be broken down into two categories:

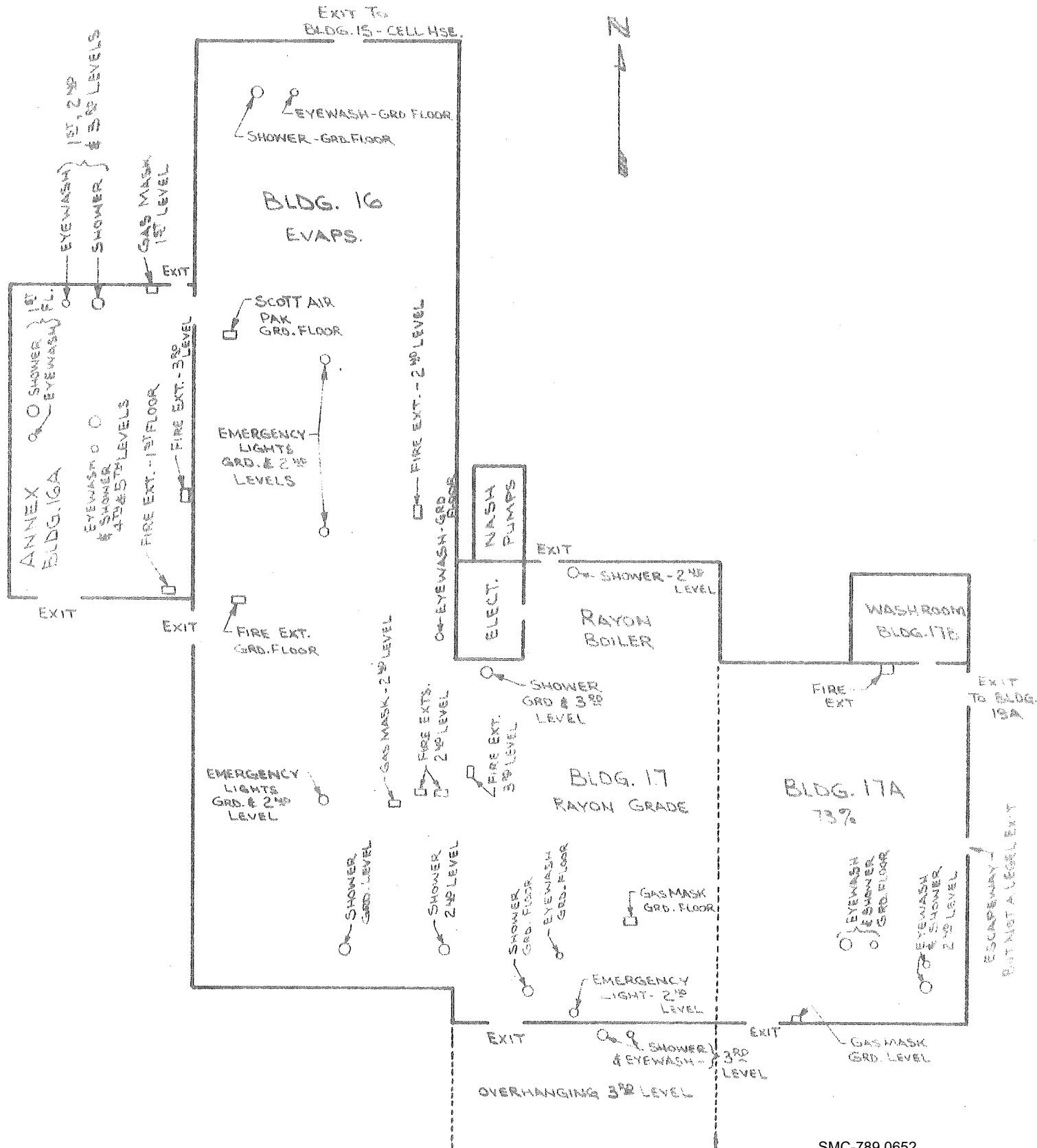
The first would be where the leaking container is close to evacuation equipment as is the case of a leak occurring in the plant. The area should be cleared, proper authorities notified, and an inspection of the leak conducted. Based on this inspection, decisions should be reached on whether the leak can be stopped or not. If the leak cannot be stopped, the container should be emptied by applying suction to the vessel. In all probability the chlorine would have to be unloaded as a gas and the gas converted to a chlorinated product, neutralized or re-liquefied. Suction is used rather than pressure, because pressure would aggravate the leaking condition.

The second category would exist where the vessel is away from unloading equipment which is the case of a train wreck. If a tank car is wrecked and chlorine is leaking, the danger area should be evacuated, and emergency clearing operations should not be started until safe working conditions exist. Leaking chlorine containers should be positioned, if possible, so that gas only escapes, and then the vehicle should be moved to a less hazardous area before attempting any possible stoppage of the leak. If the leak is stoppable, this should be undertaken. If the leak is not stoppable, the chlorine should be allowed to vaporize as slowly as possible. Attempts should be made to neutralize any liquid chlorine leaking in quantity with alkaline material. No water should be used on escaping liquid chlorine.

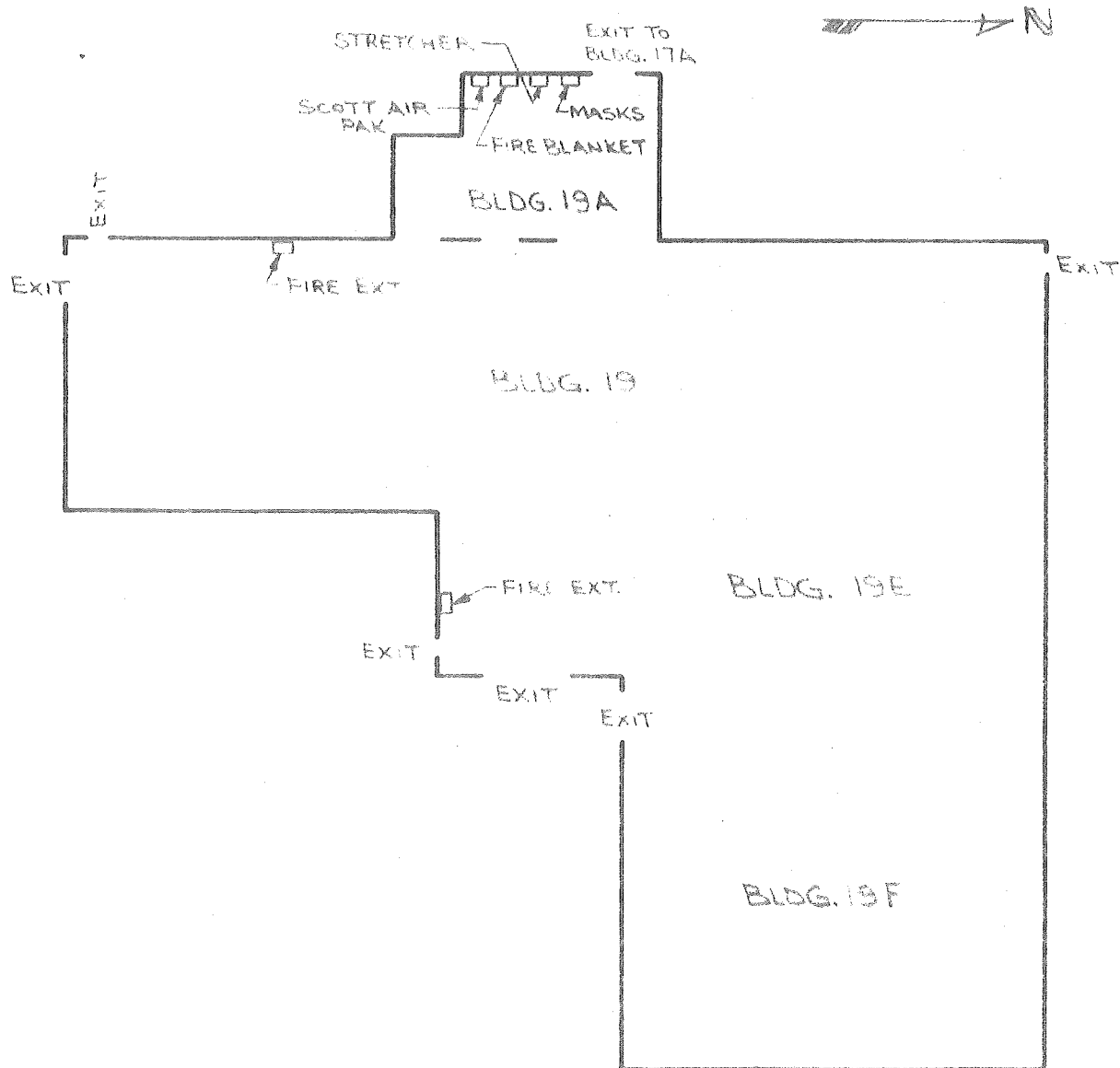


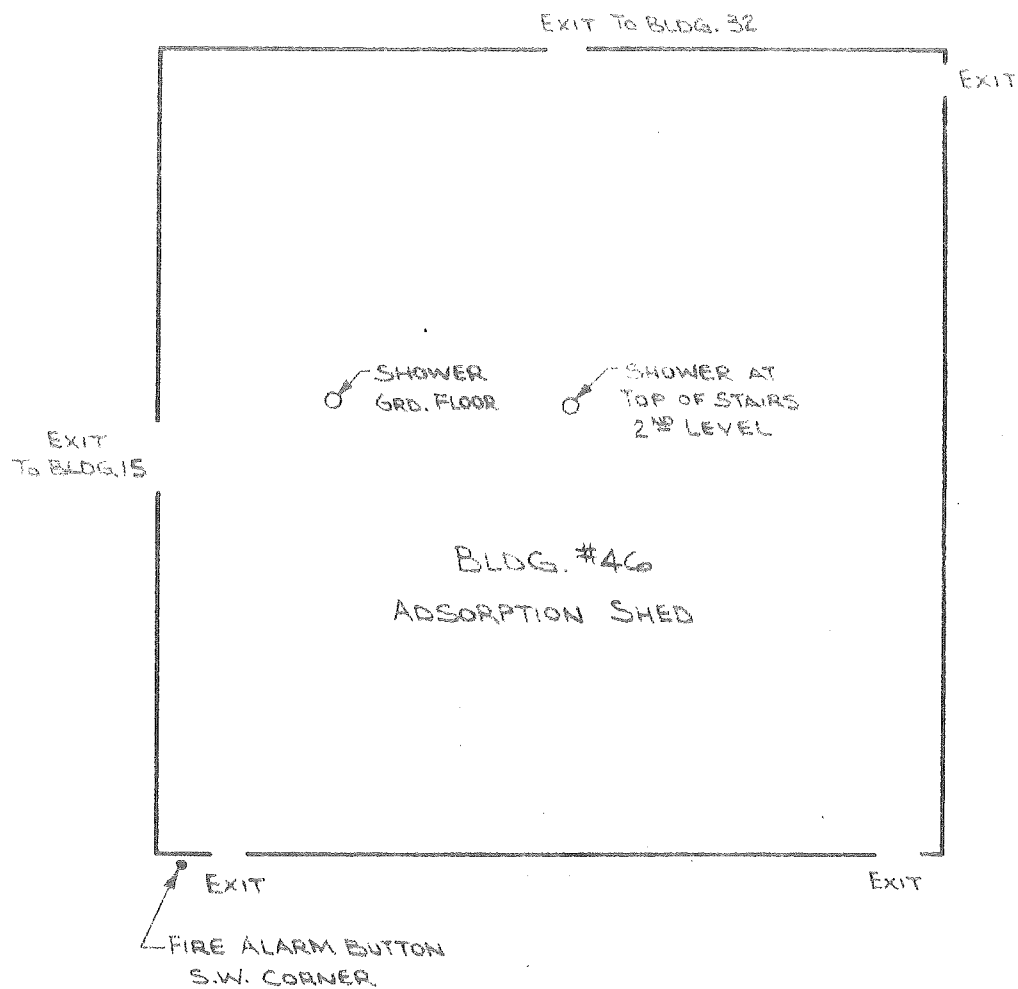














MAJOR EMERGENCY PLAN

METAL CHLORIDES AREA

- I SUPERVISORY PERSONNEL
- II RESPONSIBILITY
- III LOCATION OF EMERGENCY EQUIPMENT
- IV SHUTDOWN OF AREA FACILITIES
- V HANDLING OF MAJOR EMERGENCY CONDITIONS
  - V-A Tank Overflow ( $\text{SiCl}_4$ )
  - V-B Hole in Tank Above Liquor Level ( $\text{SiCl}_4$ )
  - V-C Hole in Tank Below Liquor Level ( $\text{SiCl}_4$ )
  - V-D Large Hole or Rupture of Tank Below Liquor Level ( $\text{SiCl}_4$ )
  - V-E Major Reactor Failure,  $\text{SiCl}_4$  or  $\text{ZrCl}_4$
  - V-F Rupture of Sealdbin ( $\text{ZrCl}_4$ )
  - V-G Leaking  $\text{SiCl}_4$  Tank Car or Trailer

I. CALL LIST - MAJOR EMERGENCY PLAN

SEE CALL LIST LOCATED AT FRONT OF BOOK.

## II. RESPONSIBILITY - ALL AREAS

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Operators in each department will shut down operations, and assist in the emergency areas as directed by supervision.

The Shift Foreman assumes all duties of the Disaster Officer until either the Disaster Officer, or a member of the M.E. Committee, arrives on the scene.

III LOCATION OF EMERGENCY EQUIPMENT - METAL CHLORIDES AREA

Equipment	Location
A. First Aid Supplies Bandages, gauze, tape, band aids, salve, ammonia capsules, tourniquet, mouth-to-mouth resuscitator.	Building 53 - Inside South Door of Locker Room, Right Cabinet.
B. Gas Masks 3 Large Canister, all-purpose, mouthpiece type masks. To supplement standard issue masks for low carbon monoxide concentration. 2 Full Face Canister Masks - Acid gases	Building 53 - Inside South Door of Locker Room, Center Cabinet.
C. Acid Suits 2 Suits and Hoods, rope, spare oxygen cylinders and wooden plugs.	Building 53 - Inside South Door of Locker Room, Left Cabinet.
D. Scott Air Pak with Spare Air Cylinder  Scott Air Pak with Spare Air Cylinder	Building 53 - Inside South Door of Locker Room.  Building 55, third level, west railing.
E. Oxygen Inhalator For impaired breathing	Building 53 - Inside South Door of Locker Room.
F. Stretcher and Blanket	Building 53 - Near east exit of Locker Room.
G. Fire Extinguishers 20 Lb. Dry Chemical 20 Lb. Dry Chemical 20 Lb. Dry Chemical 20 Lb. Dry Chemical  20 Lb. Dry Chemical 20 Lb. Dry Chemical 20 Lb. Dry Chemical 20 Lb. Dry Chemical 20 Lb. Dry Chemical 25 Lb. Carbon Dioxide  20 Lb. Dry Chemical  20 Lb. Dry Chemical 20 Lb. Dry Chemical  20 Lb. Dry Chemical	Bldg 55 - Control Room, South Wall Bldg 55 - 2nd Level at North Door Bldg 55 - 3rd Level, N.W. Corner Bldg 55 - 4th Level at Stairway Landing.  Bldg 21 - S.E. Corner Bldg 21 - S.W. Corner Bldg. 21 - Inside N. Entrance Bldg 36A - E. Pipe Shop (1966) Bldg 42 - Outside Control Room Door Bldg 42 - Outside W. Wall at stairway to roof.  Bldg 53 - Inside N. Door of Compressor Room.  #6 Hose House - W. of CS2 Pond Bldg 36 - Formerly Boron Control Room.  Bldg 36A - New Pipe Shop (1966)

III LOCATION OF EMERGENCY EQUIPMENT - METAL CHLORIDES AREA (continued)

H. Hose Houses

The Following Serve the Area:

#6 - near CS2 Pond, #7 - south of Building 55, #8 - S.W. of Building 21

They each contain the following:

5 Lengths - 250 lineal feet 2-1/2" fire hose, Straight Tip nozzle for maximum distance, 2 Adjustable nozzles, Axe, Crowbar, at least 4 Hose Wrenches, two Hydrant Wrenches, Valve Wrench for Auxiliary Valves on Hydrant.

#7 Hose House also contains a Power-On nozzle specifically for use on transformer fires. Spray only. All should learn its limitations.

I. Safety Showers by Location

Building 55 - Ground Level - Sample Room - West Wall

Building 42 - Inside Lunch Room, N.W. Corner

Building 42 - Ground Level, inside of North Door in West Wall.



#### IV SHUTDOWN OF AREA FACILITIES

In the event of a major emergency in the plant or area, it may be advisable or even essential, to shut down all or part of the Metal Chlorides area.

The following is a list of shutdown check points for the area. In a case where the major emergency interferes with normal shutdown procedures, alternate methods are outlined.

##### A. Reactor Shutdown

Mixed Chlorination Plant - Chlorine feed to the fluid reactor should be shut off by closing liquid chlorine valve at the vaporizer inlet (located on control room roof)

Alternate means of shutdown are:

1. Close liquid chlorine valve in Cl2 Dept, (located in main line upstairs over liquid chlorine storage tanks along south wall).
2. Close emergency shut-off valve remotely from control room annex. (4-way air valve - red background) Important - in the event this valve is used, it must be backed up by closing either the valve at the vaporizer inlet or the valve in the chlorine department.

If fire or a major emergency exists, shut the liquid chlorine valve in the chlorine department. It is vital that chlorine lines are not exposed to heat above 400°F.

All chlorine shut-off valves are painted RED and have valve wrenches in place.

Care should be taken not to trap liquid chlorine between any two points of shut-off. Very high pressures may result from such action.

##### B. Shut Down Stills

Shut off feed to stills by cutting power to 4001, 4006 and 4007 storage tank pumps. #4 and #5 stills are fed from either 4001, 4006, 4007 or 4013 crude storage tanks. Emergency stop switches for these pumps are in Bldg. 55 lunch room.

Shut off steam to still reboilers. Note that there are a total of four (4) reboilers, one on each column with two columns comprising a still, two (2) stills in total.

##### C. Shut Down of Steam Supply

Steam is used in Bldg. 42 on the four (4) building space heaters (two of each in the west and east walls), the first and second column reboilers on two stills, and for heating offices and control room.

In Building 55, steam is used for the chlorine vaporizer and all area space heaters. Steam is also supplied from Bldg. 55 to the hot oil system in Bldg. 21.

Steam can be shut off at the individual points of application by closing block valves. Should conditions in the area make these individual controls inaccessible, it may be necessary to shut down the area steam supply. The two main lines supplying Metal Chlorides run along the north and south walls of #2 cell house. The block valve on the south main is located in the southwest corner of #2 cell house, approx. 10' above and to the right of the metal chlorides steam meter. The block valve on the north loop can be reached from ground level along the north wall of #2 C.H. and is just east of the chlorine foreman's office entry.

Steam to Bldg 55 can be shut off at the block valve on the south wall of Bldg 42.

#### D. Shut Power Off to Metal Chlorides Area

Power to Bldgs. 42, 53, 55, 36, 36A, 21 and the South Load Center Bldg. 49, are distributed from Substations #4 and #5, at south end of #2 Rectifier Station, Bldg 32A. The caustic pumps are on Substation #3. Load Center - equipment list is provided.

#### E. Shutdown Water Supply to Metal Chlorides

Water pumped from the artificial pond due north of Bldg 42 is the primary source of process water. Pumps are in and at Bldg. 43.

At Bldg. 42, this water is used on refrigeration condensers, the five (5) water cooled condensers for the two (2) silicon tetrachloride stills, and the still product lines. Water is also used in the silicon and zirconium scrubbers.

In Bldg 55, pond water is used to cool the reactor crossover crossover cyclone and hot pipe. Water is also used on the two refrigeration condensers in Bldg 21 and the roof scrubber in Bldg 55.

This water supply to all buildings can be shut off by shutting down the two pumps in and at Bldg 43.

Pond water to Bldg 55 can be shut off on the second level in Bldg 42 at the south wall (two valves).

City water pressure is maintained on two (2) hose stations in the Metal Chlorides area and on all safety showers. The only other uses of City water in the area are for drinking, sanitary use, and on the air compressors in Bldg 53. City water shut off valve for Bldg 42 is just inside west wall of Bldg 42 at ground level near safety shower.

City water to Bldg 55 can be shut off at reactor room ground level, northwest corner, or by an underground valve northwest of Bldg 55.

#### F. Shut Down of Air Supply

The air supply to the area can be interrupted at the individual points of use by closing block valves. Should this prove impractical, power can be cut to the two compressors in Bldg 53 and the air receiver bled down. With the tie-in valve to the plant air system closed, the air supply to the area is cut off. This tie-in valve is located in the compressor room, south wall.

#### G. Shut Down of Water and/or Steam under Freezing Conditions

In freezing weather, a steam or water outage can result in serious damage to lines, fittings, and equipment.

##### 1. Water Shut-off

On the Frick ammonia compressor, north of Bldg 53, open the two water drain valves at the inlets to the head cooling jackets, then drain the main line which provides water to the Frick unit and drain the water cooled condensers (2).

Drain the 5 water cooled condensers on the silicon stills. These condensers all have drain valves at the inlets.

The jacketed still product lines should be checked and drained, if necessary.

Both Zirconium and Silicon scrubbing columns have drains in the low points of the water supply system.

##### 2. Steam Shut-off

See Section IV-C. All points of steam usage are equipped with condensate drains. All points of steam usage should be checked and secured in event of steam failure during a major emergency.

## V. HANDLING OF MAJOR EMERGENCY CONDITIONS RESULTING FROM PROCESS OR EQUIPMENT FAILURE

The following is an outline of possible procedures to be followed against a general type of major emergency condition. Specific procedures should be determined based on existing local conditions.

CAUTION: Never Direct Water On An Open Tank Nozzle, Or On Point Of Failure

### A. TANK OVERFLOW (SiC14)

1. Discontinue transferring to the tank. Check the possibility of a leak rather than overflow.
2. Transfer tank over capacity to another vessel.
3. Wash down spilled material as rapidly as possible.
4. Check out entire system before going back on stream.

### B. HOLE IN TANK ABOVE LIQUOR LEVEL

1. Discontinue transferring to this tank and bleed off pressure on unit, if any.
2. Blind or tag off tank.
3. Cover hole temporarily to prevent water entry and fuming.
4. Arrange for immediate repair.

### C. SMALL HOLE IN TANK BELOW LIQUOR LEVEL (SiC14)

1. Discontinue transferring to this tank.
2. Where a pump is attached to the tank, start to pump liquor out to another tank. Continue to transfer out until the level drops below the point of defect.
3. In the case where a tank must be displaced by air pressure, do not attempt to pressurize a leaking tank without considering the possibility of total loss of the contents through further failure of the tank wall. A portable gear pump is a possible means of removing liquor from a tank which is normally displaced under pressure.
4. While pumping out a leaking tank, or before attempting to pressurize a defective unit, it should be possible to approach same (with full protective equipment of Scott Air Pak, acid suit, and safety rope, etc.) and make temporary repairs to either stop or greatly reduce leakage. An air hose may be used to clear the immediate area of repair of fume. A wooden plug, asbestos rope, or other materials may be used to plug leaking points.
5. With leakage stopped or greatly reduced, a permanent patch may be welded to the tank.

### D. LARGE HOLE OR RUPTURE OF TANK BELOW LIQUOR LEVEL (SiC14)

1. The majority of failures of this type are usually due to:
  - (a) Excessive pressure build-up through pumping into a tank with a plugged vent.
  - (b) Excessive pressure build-up by attempting to transfer from the tank by air padding.

Recommended procedure for handling this type of failure:

- (a) Stop all transfers into the ruptured tank. Open a top flange or vent on the tank to relieve pressure.
- (b) If a pump is associated with the tank, pump the contents of the unit to other storage.

# V. HANDLING OF MAJOR EMERGENCY CONDITIONS RESULTING FROM PROCESS OR EQUIPMENT FAILURE

## D. LARGE HOLE OR RUPTURE OF TANK BELOW LIQUOR LEVEL (SiCl<sub>4</sub>) (continued)

- (c) With a gaping hole in the tank, the contents of the unit above the level of the failure will rapidly spill out. There will probably be little or no time for the difficult job of attempted repair. The spilled liquor should be washed down as rapidly as possible. Water should NOT be played on the damaged tank. When liquor has drained to the level of the failure, the remaining liquor might be salvaged.

## E. RUPTURED OR MAJOR REACTOR FAILURE (SiCl<sub>4</sub> or ZrCl<sub>4</sub>)

1. Shut off Chlorine to all reactors.
2. Cut water flow to reactor. Water in hot charge may generate hydrogen and create a flash fire or explosion. Hot charge on the concrete floor can create a steam explosion. Watch for roof fires.

## F. RUPTURE OF SEALDBIN (ZrCl<sub>4</sub>)

1. Stop transfer of material to sealdbin.
2. Shovel material on the ground into 55-gallon open-top drums.
3. Tape or otherwise cover broken sealdbin wall. Leave unit in place, but make no additional transfers to unit.
4. Check system for pluggage, defective air control valve, defective safety relief, or other possible failure before attempting to re-start system.
5. Wash down area.

## G. EMERGENCY PROCEDURES FOR LEAKING SiCl<sub>4</sub> TANK CAR/TRAILER

Each emergency tank car situation is unique in itself. There is no one set method to be rigidly followed.

The list below is a basic guide to be used, along with common sense, to safely (1) maximize the recovery of product, and (2) minimize the dangers to both neighbors and operating personnel.

Silicon tetrachloride tank cars/trailers are loaded and unloaded via dip-pipe. There are no bottom outlets.

### 1. Leak in Car Above Liquid Level

- (a) Release pressure by slowly opening tank car vent valve.
- (b) Attempt to stop leak by caulking with lead wool, asbestos, Permatex or cell putty.
- (c) Cover with sheet rubber and banding.

### 2. Leak in Car Below Liquid Level

- (a) If failure is relatively small and rate of leakage is not rapid, the above procedure can be followed.
- (b) If the failure is large, then:
  - (1) The car should be vented, if possible.
  - (2) The spilled liquor should be washed down as quickly as possible with as large a volume of water that is available.

WATER SHOULD NOT BE DIRECTED TOWARD THE FAILURE.

G. EMERGENCY PROCEDURES FOR LEAKING SILICON TETRACHLORIDE TANK CAR/TRAILER (continued)3. Transferring of Car and Contents

- (a) Unless the failure is of a minor nature, moving the car any distance through populated areas should not be attempted.
- (b) Transfer the contents by using:
  - (1) Any available portable pump.
  - (2) Pressurizing using either nitrogen or dry air. The extent of pressurizing will depend on the size and nature of the failure and the effectiveness of the patch or caulking repair.

4. Safety Precautions

- (a) Use a canister type gas mask with mouthpiece and/or a self contained breathing device (Scott Air Pak) with life line, as required, when approaching car area and while attempting repair. Avoid inhalation of fumes.
- (b) Isolate affected area and restrict area to authorized personnel.
- (c) If a local source of water is insufficient or unavailable, enlist the aid of fire fighting equipment during both the patching and transferring operations.
- (d) Acid resistant clothing should be used, i.e., acid suit, dynel or wool clothing with rubber gloves and boots.

5. Tools and Equipment used in Patching and Transferring

- (a) Self contained breathing apparatus (Scott Air Pak), full face canister gas masks, standard canister gas mask with mouthpiece, acid suit, emergency rope, lead wool, asbestos rope, Permatex, rupture discs, rubber sheet gasket material, banding, cell putty, hoses with quick couplings, extension cords, wrenches, copper tubing and fittings, and air and/or nitrogen cylinders.

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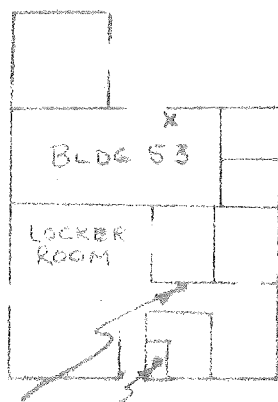
# METAL CHLORIDES AREA

LOCATION OF EMERGENCY EQUIPMENT  
GROUND LEVEL

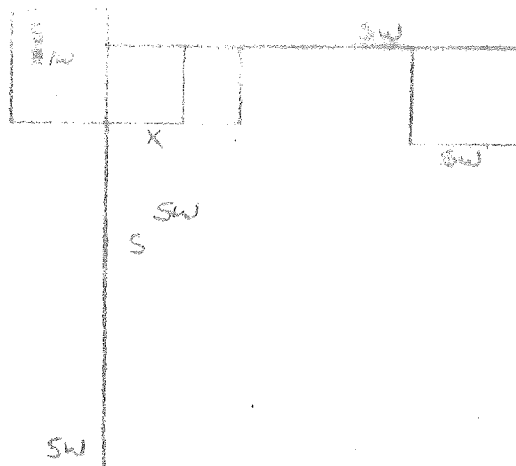
- KEY -	
E/W	EXIT WALK
S	SAFETY SHOWER
X	FIRE EXT
SW	STAIRWAY
L	LADDER



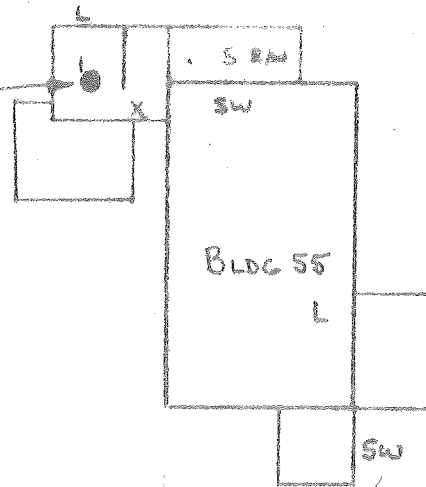
HOSE HOUSE NO 6



EMERGENCY EQUIPMENT AND FIRST AID SUPPLIES	
A.	FIRST AID SUPPLIES
B.	GAS MASKS
C.	ACID SUITS
D.	SCOTT AIR PACK
E.	STRETCHER + BLANKET



EMERGENCY CL <sub>2</sub> SHUT OFF	
1.	OPERATOR FOR REMOTE VALVE IN CONTROL ROOM
2.	GLOBE VALVE AT VAPORIZER (CONTROL ROOM ROOF)
3.	GLOBE VALVE AT CL <sub>2</sub> STG TKS IN CL <sub>2</sub> DEPT.



HOSE  
HOUSE  
NO 7



METAL CHLORIDES AREA

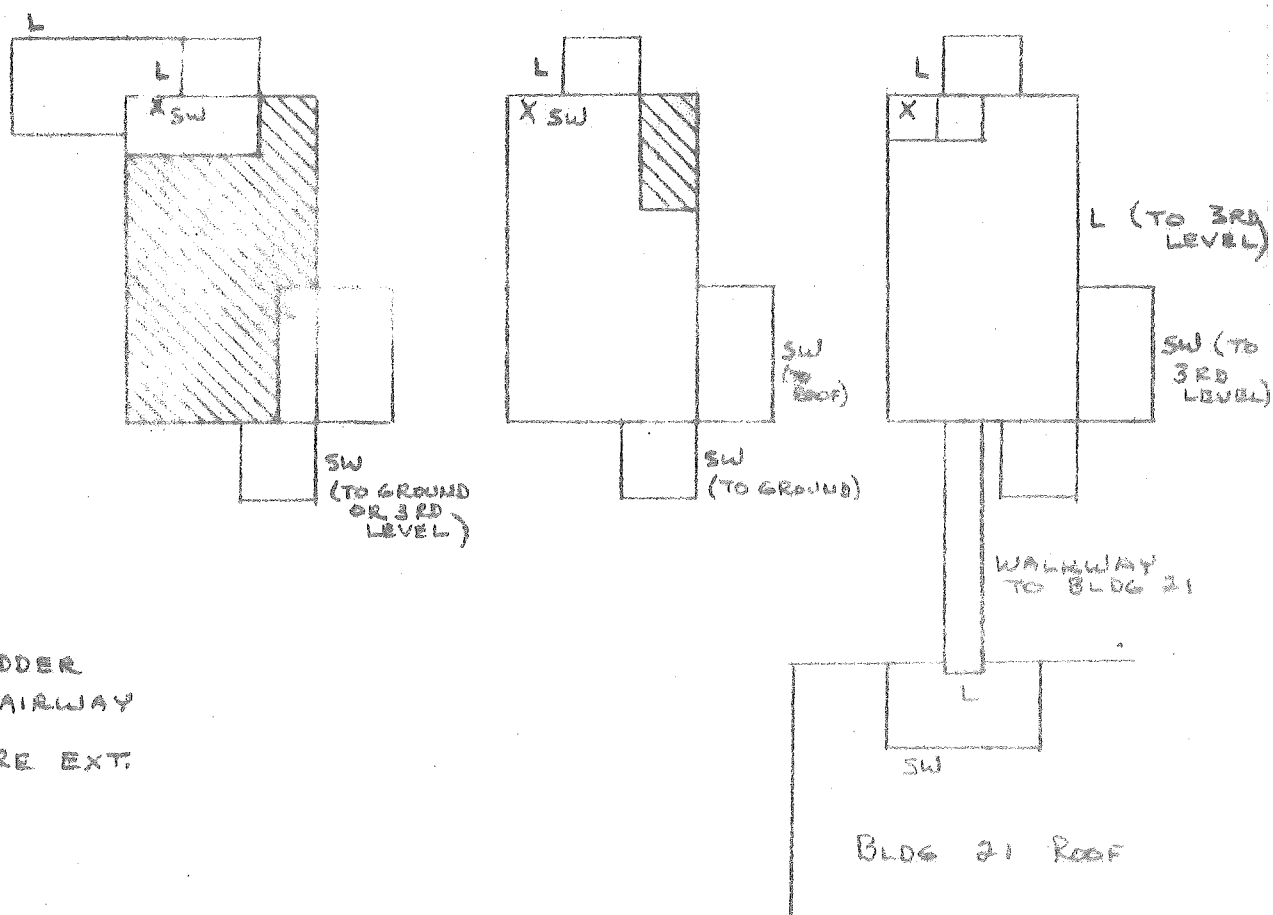
LOCATION OF EMERGENCY EQUIPMENT  
SECOND, THIRD, AND ROOF LEVELS  
BLDG 55



SECOND LEVEL

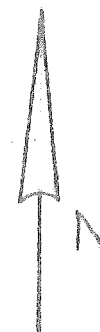
THIRD LEVEL

ROOF

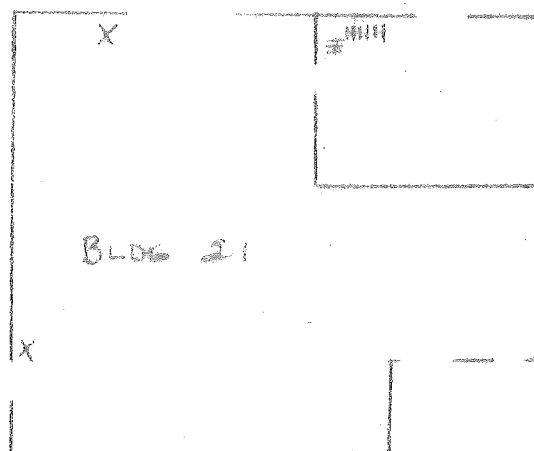
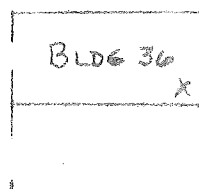


METAL CHLORIDES AREALOCATION OF EMERGENCY EQUIPMENT  
GROUND LEVEL

X = FIRE EXT



HOSE HOUSE No 7



HOSE HOUSE No 8





V. FIRE FIGHTING PLANA. PROCEDURE FOR TURNING IN AND ANSWERING FIRE ALARMS

Below is the method to be used for turning in fire alarms and the procedure to be followed in answering fire alarms.

1. First, when a fire is small, you will undoubtedly try to put it out with portable extinguishers. If the fire does not respond easily and quickly to the use of a portable extinguisher, then do not hesitate to summon our own fire crews. Even if you have the fire under control by the time the fire crew arrives, you still have followed the sensible plan by calling them.
2. There are three (3) fire sirens, located in our plant as follows:
  - (a) One on west end of roof of old NYO Building #1.
  - (b) One on roof of front end of CTC Building #8.
  - (c) One on roof of #2 Cell House, Building #32.
3. We have four (4) push button switches, located as follows:
  - (a) One on outside of Fire Pump House, Building #31.
  - (b) One on outside of N.W. corner of #1 Rectifier Station, Building #14C.
  - (c) One just outside of N.E. door of #2 Cell House, Building #32.
  - (d) One just outside of S.W. door of Adsorption Shed, Building #46.

There is a "Start" and "Stop" button. Push the "Start" and the siren goes up in crescendo, and push the "Stop" and it comes down. Do this twice. Then proceed as quickly as possible to the meeting place of the Fire Crew which is at the outside N.W. corner of #1 Rectifier Station Building #14C, and inform the Fire Crew. If you have to get back to your work post, give the information as to the fire location to anyone in the area of Building 14C and let them remain to inform the remainder of the Fire Crews.

Remember, any one button used will blow all three sirens.

4. Remember, also, that when a portable extinguisher is used, you will inform your Supervisor as soon as is feasible so that the extinguisher can be serviced or replaced immediately, and so that you and the Supervisor can decide what needs to be done to prevent recurrence of the blaze.

V. FIRE FIGHTING PLAN

B. CALLING OUTSIDE FIRE DEPARTMENTS

1. If there is the slightest question in your mind as to our ability to handle any fire, do not hesitate to call an outside Fire Department as follows:
  - (a) When available, get our Switchboard Operator, and have her call the outside Fire Department for you.
  - (b) After 4:30 p.m., any day, all day Saturday and Sunday, and Holidays, the following phones are easily available:
    - (1) This group will be directly connected to outside trunks.
      - Guard House - Extension 243
      - Shift Leaders' Office - Extension 243
      - Shift Foremen's Office - Extension 243
      - Building 55 - Metal Chlorides - Extension 266
    - (2) This group will give you an outside line by dialing "9" first.
      - Guard House - Extension 234
      - Shift Leaders' Office - Extension 242
      - Shift Foremen's Office - Extension 224
2. Under the Niagara County Mutual Aid Plan, the Niagara Falls Fire Department will come to this plant if required, but, we call the Upper Mountain Fire Company, then Upper Mountain Fire Company calls for other help if needed. So, we proceed as follows:
  - (a) Call Upper Mountain Fire Company at 297-1441
  - (b) If above is busy, or no answer, call BU 5-5355 - Sheriff's Department.
  - (c) As third alternative, call State Police at 297-0755
3. Station someone at Gate to direct Fire Department.

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V. FIRE FIGHTING PLANC. FIRE CREWS AND PROCEDURES1. Day Fire Crews

From the hours of 8:00 a.m. to 4:30 p.m., Monday through Friday (except on holidays), the regular day fire crews take over the general fire fighting activities, operating personnel will look after the process. Of necessity, the fire crews will accept advice on process matters from the operating personnel. Cooperation is absolutely essential, but every effort will be made to avoid interference between groups.

Fire Crews - Days

Chief .....	R. Theis
Deputy Chief .....	E. Houtz
Captain .....	W. Baney
Lieutenant .....	P. Zajac
Observers .....	R. Houtz and T. Purcell

Hose Crew #1 - Hose Houses 1,3,5,7,9,11,13 2nd & 3rd Floor CTC

Leader .....	N. Walker	Hose Man .....	P. Romano
Deputy .....	A. Rusk	Hydrant Man .....	T. Mazzei
Hose Man .....	G. Smithson	Extra .....	E. Harmon
Hose Man .....	L. Stiner	Extra .....	R. Pippard
Hose Man .....	C. Eisenhauer	Extra .....	E. Brennen

Hose Crew #2 - Hose Houses 2,4,6,8,10,12 Penthouse & Pipe Shop

Leader .....	L. Greene	Hose Man .....	R. Gibbons
Deputy .....	L. Henry	Hydrant Man .....	G. Wilsoncroft
Hose Man .....	G. Stevens	Extra .....	A. Keenan
Hose Man .....	R. Weinheimer	Extra .....	G. Brown
Hose Man .....	W. Harris	Extra .....	R. Kirkpatrick

2. Shift Fire Crews

On Saturdays, Sundays and holidays, from 4:30 p.m. to 8:00 a.m. on all days, the fire crews are composed of shift workers. The organization for each crew will be as follows:

Chief .....	Shift Foreman
Deputy .....	Shift Leader
Hydrant & Hose Men .....	Drain Operator
	Fireman's Helper
	Caustic Filter Operator
	"B" Operators in Metal Chlorides
	Antimony Operator

When available, the following will also be part of the above crew:

Caustic Tank Car Loaders  
 Members of Day Fire Crews in plant on overtime work.  
 Any operator from departments that might be shut down at the time.

If conditions permit, the following will remain in their normal operating areas, ready for shutdown or other emergency.

Both Cell House Operators  
 Chlorine Operator  
 Boiler Fireman - "A"  
 Carbon Tetrachloride "A" Operator  
 Metal Chlorides "A" Operators  
 Both Evaporator "A" Operators



EMERGENCY TELEPHONE LIST

<u>AMBULANCE</u>	Frontier Ambulance Service .....	285-3663
	Niagara Ambulance Service .....	284-4228
	Lewiston .....	Dial Operator
<u>DOCTOR</u>	R.S. Barry, Jr. ....	284-5664
<u>FIRE</u>	Upper Mountain Fire Company (1st choice) .....	297-1441
	Lewiston Fire Company (2nd choice) .....	754-4211
	Niagara County Sheriff's Dept. (3rd choice)....	285-5355
	State Police (4th choice) .....	297-0755
<u>HOSPITALS</u>	Mt. St. Mary's Hospital .....	297-4800
	Memorial Medical Center .....	278-4000
	Ransomville General Hospital .....	791-4211
	Newfane Hospital .....	778-8576
<u>POLICE</u>	Niagara County Sheriff's Dept. ....	285-5355 (Lockport)
	Niagara Falls Office - Sheriff's Dept. ....	285-3381
	New York State Police .....	297-0755
	Niagara Falls Police Headquarters.....	285-9111
<u>WEATHER FORECAST</u>	(Tape Recording).....	643-1234 (Buffalo)
<u>POWER AUTHORITY</u>	Robert Moses Power Plant (manned 24 hours/day)..	285-3211
<u>WATER DEPARTMENT</u>	New Filtration Plant (manned 24 hours/day).....	283-8992
	If no answer at 283-8992 call:	
	Niagara Falls Police .....	285-9111
<u>STAUFFER NEW YORK OFFICE</u>	Stauffer Chemical Co, 299 Park Avenue .....	212-421-5000
<u>NIAGARA MOHAWK POWER CORPORATION</u>	District Operator .....	285-5688
	Gibson Station .....	282-1211
	Harper Station .....	285-5688

VI. TELEPHONE LISTS - EMERGENCY AND PERSONNELB. GUARD SERVICE

The William J. Burns International Detective Agency, Incorporated,  
30 Church Street, Buffalo, New York 14202 Phone: (716) 856-2050

Manager: Mr. Robert J. Steele  
146 Jeanmoor Road  
Amherst, New York 14226 Phone: (716) 695-3427

Supervisor: Mr. Charles R. Harpster  
73 Lake Avenue  
Lancaster, New York Phone: (716) 684-7455

Guards: Sgt. Donald Colquhoun  
736 Tenth Street  
Niagara Falls, N.Y. Phone: 285-0820

Trenton Knack  
2483 LaSalle Avenue  
Niagara Falls, N.Y. Phone: 282-0763

Samuel Muraca  
1755 Rhode Island Avenue  
Niagara Falls, N.Y. Phone: 285-7611

James Crielly  
1141-1/2 Ontario Avenue  
Niagara Falls, N.Y. Phone: 282-5483

Douglas Hale  
162 - 69th Street  
Niagara Falls, N.Y. Phone: 283-7015

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STAUFFER CHEMICAL COMPANY

NIAGARA FALLS, NEW YORK

S A L A R Y

P E R S O N N E L   D I R E C T O R Y

JANUARY 25, 1971

mf



NAME	ADDRESS	(ZIP)	TELEPHONE
Baney, H.C.	5962 Hyde Park Blvd, Niagara Falls, N.Y.	14305	282-1159
Baney, W.	4729 Poneroy Ave., Niagara Falls, N.Y.	14305	297-1935
Blaise, K.	3535 Miller Road, Niagara Falls, N.Y.	14304	297-1647
Brown, G.	2510 Youngstown Road, Ransomville, N.Y.	14131	791-3653
Brooks, G.	185 Young Street, Wilson, N.Y.	14172	751-6072
Burden, F.	2479 Cleveland Avenue, Niagara Falls, N.Y.	14305	282-3670
Bushman, G.	2043 Townhall Terrace, Grand Island, N.Y.	14072	773-5670
Butcher, D.	522 Morgan Drive, Lewiston, N.Y.	14092	754-7620
Compolongo, S.	2734 Grand Avenue, Niagara Falls, N.Y.	14301	284-8716
Congelosi, R.A.	889 Escarpment Drive, Lewiston, N.Y.	14092	297-4981
Deane, C.	423 - 76th Street, Niagara Falls, New York	14304	283-7741
Denny, D.	1558 Youngstown-Lockport Road, Youngstown, N.Y.	14174	751-3764
Dominski, E.	4528 Liberty Avenue, Niagara Falls, N.Y.	14305	297-3872
Eddy, Jan	1874 Niagara Avenue, Niagara Falls, N.Y.	14305	285-4442
Faieta, M.	710 - 99th Street, Niagara Falls, N.Y.	14304	283-7257
Feneziani, G.	2366 Old Falls Blvd., Niagara Falls, N.Y.	14304	731-9807
Foster, E.	1505 Tuscarora Road, Niagara Falls, N.Y.	14304	297-3259
Fultz, E.	1630 Ontario Ave., Niagara Falls, N.Y.	14305	284-0972
Gansworth, J.	2023 Upper Mt. Road, Sanborn, N.Y.	14132	297-3829
Gray, J.	208 Renwood, Kenmore, N.Y.	14217	876-9667
Hoffman, K.	4415 Lewiston Rd., Niagara Falls, N.Y.	14305	284-2659
Hoffman, V.	424 Eighth St., Niagara Falls, N.Y.	14303	284-6745
Holmes, M.	1096 Escarpment Drive, Lewiston, N.Y.	14092	297-3499
Houtz, R.L.	1051 Escarpment Drive, Lewiston, N.Y.	14092	297-4988
Irving, J.	6011 Grauer Rd., Niagara Falls, N.Y.	14305	297-2351
Jensen, W.	881 Hillside Drive, Lewiston, N.Y.	14092	754-7112
Johns, P.	722 - 99th St., Niagara Falls, N.Y.	14304	283-0882
Johns, R.	722 - 99th St., Niagara Falls, N.Y.	14304	283-0882
Keister, F.	65 East Colonial Drive, Grand Island, N.Y.	14072	773-3562
Kephart, R.	6906 Lindberg Ave., Niagara Falls, N.Y.	14304	283-1685
Kurowski, B.	7627 St. Joseph Rd., Niagara Falls, N.Y.	14304	297-7738
Laehy, H.J.	399 Brentwood Drive, Youngstown, N.Y.	14174	745-3520
Lampman, G.	4701 Witmer Road, Niagara Falls, N.Y.	14305	297-2211
McDougall, W.	2468 Grand Ave., Niagara Falls, N.Y.	14301	284-4085
McInally, F.	6101 Ketchum Ave., Newfane, N.Y.	14108	778-7597
Maas, G.	3827 River Road, Youngstown, N.Y.	14174	745-7074
Marrone, J.	1814 Saunders Settlement Road, Niagara Falls, N.Y.	14304	297-4257
Mirabito, T.	516 E. Oak Terrace, Youngstown, N.Y.	14174	745-3347
Murphy, F.A.	2497 Michigan Ave., Niagara Falls, N.Y.	14305	297-8961
Nanea, A.	2448 Woodlawn Ave., Niagara Falls, N.Y.	14301	297-7936
Orsini, E.	511 Parkside Drive, Youngstown, N.Y.	14174	745-3554
Patterson, S.	3445 Youngstown-Lockport Rd., Ransomville, N.Y.	14131	791-3892
Phelan, E.	4503 Maplewood Avenue, Niagara Falls, Ontario, Canada		416-354-1368
Purcell, T.E.	305 S. First Street, Lewiston, N.Y.	14092	754-7550
Smith, E.	7833 Colonial Drive, Niagara Falls, N.Y.	14304	297-0237
Snizek, L.	229 - 15th Street, Niagara Falls, N.Y.	14303	284-5155
Sullivan, R.	3626 Woodland Ave., Niagara Falls, N.Y.	14304	297-0536
Theis, R.	1026 - 92nd St., Niagara Falls, N.Y.	14304	236-0197
Valente, F.	1060 Upper Mt. Road, Lewiston, N.Y.	14092	297-0704
Verna, V.J.	3229 Niagara Avenue, Niagara Falls, N.Y.	14305	285-2272
Weinheimer, W.	8 Highland Ave., Lockport, N.Y.	14094	434-8344
Willingham, B.E.	325 Brookshire Road, Youngstown, N.Y.	14174	745-9998
Wilson, J.	1070 N. Military Rd., Niagara Falls, N.Y.	14304	283-9106
Zajac, P.	1760 Cudaback Ave., Niagara Falls, N.Y.	14303	285-1501

STAUFFER CHEMICAL COMPANY

NIAGARA FALLS, NEW YORK

HOURLY

PERSONNEL DIRECTORY

FEBRUARY 1, 1971

mf

SMC-789 0678

<u>N A M E</u>	<u>A D D R E S S</u>	<u>Z I P</u>	<u>TELEPHONE</u>
Adams, D.	1657 Lake Road, Youngstown, N.Y.	14174	745-3817
Adams, P.	8248 Colonial Drive, Niagara Falls, N.Y.	14304	297-3906
Alfonse, A.	2126 Seneca Avenue, Niagara Falls, N.Y.	14305	284-2189
Andrews, H.	1412 - 18th Street, Niagara Falls, N.Y.	14305	284-6390
Ashker, N.	2951 North Avenue, Niagara Falls, N.Y.	14305	297-6056
Ashker, W.	2951 North Avenue, Niagara Falls, N.Y.	14305	297-6056
Aswad, C.	4017 Bell Avenue, Niagara Falls, N.Y.	14305	284-6440
Barosky, C.	2019 Lockport Street, Niagara Falls, N.Y.	14305	284-5679
Barr, K.	2944 Seneca Avenue, Niagara Falls, N.Y.	14305	297-6723
Barrett, F.	5567 Ontario Avenue, Niagara Falls, Ontario, CANADA	(416)	358-6314
Beckett, R.	2787 Livingston Avenue, Niagara Falls, N.Y.	14303	285-0862
Beckett, W.	720 Orchard Parkway, Niagara Falls, N.Y.	14303	284-9248
Beitman, W.	1219 Ethel Avenue, Niagara Falls, N.Y.	14305	284-5615
Biamonte, T.	644 - 25th Street, Niagara Falls, N.Y.	14301	282-3009
Birmingham, F.	709 - 99th Street, Niagara Falls, N.Y.	14304	283-8334
Black, C.	934 Balmer Road, Ransomville, N.Y.	14131	791-3844
Brandon, G.	6013 Godfrey Road, Burt, N.Y.	14028	778-8067
Brennen, E.	370 South Third Street, Lewiston, N.Y.	14092	754-4912
Brierley, J.	1257 - 95th Street, Niagara Falls, N.Y.	14304	297-5101
Brooks, R.	2413 Lake Road, Ransomville, N.Y.	14131	791-3632
Burt, R.	4613 John Street, Niagara Falls, N.Y.	14305	297-3723
Carver, T.	2438 Pierce Avenue, Niagara Falls, N.Y.	14301	297-3972
Catchpole, A.	4340 Isherwood Drive, Niagara Falls, N.Y.	14305	297-0092
Caughill, L.	1729 Willow Avenue, Niagara Falls, N.Y.	14301	285-1668
Colliver, R.	2643 New Road, Ransomville, N.Y.	14131	791-4420
Currie, K.	4532 Pomeroy Avenue, Niagara Falls, N.Y.	14305	297-0290
DelGrosso, D.	2415 LaSalle Avenue, Niagara Falls, N.Y.	14301	297-7866
Demers, L.	3025 St. Paul Street, Niagara Falls, N.Y.	14305	285-4682
DeSimone, A.	2246 LaSalle Avenue, Niagara Falls, N.Y.	14301	297-7434
DeSimone, O.	3230 Seneca Avenue, Niagara Falls, N.Y.	14305	297-6313
Dominski, J.	3204 Hyde Park Boulevard, Niagara Falls, N.Y.	14305	284-7920
Donatelli, J.	1704 LaSalle Avenue, Niagara Falls, N.Y.	14301	284-6864
Dupras, E.	915 Ontario Avenue, Niagara Falls, N.Y.	14305	284-0961
Eisenhauer, C.	1353 Ontario Avenue, Niagara Falls, N.Y.	14305	284-7432
Eisenman, F.	9221 Lockport Road, Niagara Falls, N.Y.	14304	297-5004
Farnham, W.	Mt. Hope Road, Sanborn, N.Y.	14132	297-0076
Fedrizzi, A.	1311 Ridge Road, Lewiston, N.Y.	14092	754-7534
Fleck, E.	3827 River Road, Youngstown, N.Y.	14174	745-3983
Freatman, W.	3725 North Ridge Road, Lockport, N.Y.	14094	434-7156
Freberg, C.	375 Oak Street, Youngstown, N.Y.	14174	745-9707
Gergal, F.	3858 Townline Road, Ransomville, N.Y.	14131	751-3294
Giannangeli, A.	534 - 22nd Street, Niagara Falls, N.Y.	14301	284-4027
Gibbons, R.	8712 Third Avenue, Niagara Falls, N.Y.	14304	297-4009
Glass, T.	331 Spruce Avenue, Niagara Falls, N.Y.	14301	285-0044
Glavin, M.	786 - 97th Street, Niagara Falls, N.Y.	14304	283-9082
Greaser, E.	1608 Niagara Street, Niagara Falls, N.Y.	14303	284-7641
Greene, L.	333 - 78th Street, Niagara Falls, N.Y.	14304	283-0943
Greene, P.	1315 Vanderbilt Avenue, Niagara Falls, N.Y.	14305	282-2552
Greenwald, G.	185 Young Street, Wilson, N.Y.	14172	751-6689
Gregorchik, T.	46 First Avenue, North Tonawanda, N.Y.	14120	694-0055
Hall, D.	5851 Pearl Street, Sanborn, N.Y.	14132	731-9506
Hanna, G.	929 Fairfield Avenue, Niagara Falls, N.Y.	14305	282-7031
Harmon, E.	2409 Youngstown-Wilson Road, Ransomville, N.Y.	14131	791-3614

N A M E	A D D R E S S	Z I P	TELEPHONE
Harris, W.	3588 Ransomville Road, Ransomville, N.Y.	14131	791-3357
Hart, S.	915 Ontario Avenue, Niagara Falls, N.Y.	14303	285-7698
Henry, F.	1387 Upper Mountain Road, Lewiston, N.Y.	14092	297-4907
Henry, L.	2006 Mt. Hope Road, Lewiston, N.Y.	14092	297-4990
Hill, E.	3300 Palmer Road, Ransomville, N.Y.	14131	791-4459
Hilton, J.	Shady Ridge Trailer Court, Balmer Road, Youngstown, NY	14184	745-3528
Houtz, E.	1516 - 22nd Street, Niagara Falls, N.Y.	14305	282-7747
Houtz, R.	3007 - 20th Street, Niagara Falls, N.Y.	14305	-
Hutton, F.	2836 Brayley Road, Ransomville, N.Y.	14131	791-4166
Ivey, J.	4529 Pomeroy Avenue, Niagara Falls, N.Y.	14305	297-4508
Johnson, C.	431 Cayuga Street, Lewiston, N.Y.	14092	754-4174
Jones, R.	3022 Monroe Avenue, Niagara Falls, N.Y.	14303	282-5034
Keenan, A.	1745 Lake Road, Youngstown, N.Y.	14174	745-7411
Kelley, J.	4705 Isherwood Drive, Niagara Falls, N.Y.	14305	297-5481
Kenyon, D.	2917 Old Mill Road, Sanborn, N.Y.	14132	731-9549
Kenyon, W.	2917 Old Mill Road, Sanborn, N.Y.	14132	731-9549
Kephart, R.	572 - 74th Street, Niagara Falls, N.Y.	14304	283-1792
Kightlinger, E.	3363 Daniels Road, Ransomville, N.Y.	14131	751-9832
Kirkpatrick, R.	3075 Monroe Avenue, Niagara Falls, N.Y.	14303	285-0957
Knowles, R.	2670 Youngstown-Lockport Rd, Ransomville, N.Y.	14132	791-4126
Kolaga, R.	2806 Ferry Avenue, Niagara Falls, N.Y.	14303	282-7254
Krebbs, R.	219 Fifth Street, Niagara Falls, N.Y.	14303	285-4830
Lawlor, D.	5760 Morrison Street, Niagara Falls, Ontario, CANADA	(416)	354-1902
Leighton, D.	870 Doorwood Park, Ransomville, N.Y.	14131	791-4689
Lunsford, J.	2257 Niagara Avenue, Niagara Falls, N.Y.	14305	284-6618
Lutz, L.	404 - 101st Street, Niagara Falls, N.Y.	14304	283-1110
McClarren, L.	4305 Isherwood Drive, Niagara Falls, N.Y.	14305	297-1588
McCulloch, G.	3025 Pretoria Street, Niagara Falls, N.Y.	14305	285-3004
Maddalena, A.	5424 Ontario Avenue, Niagara Falls, Ontario CANADA	(416)	354-4371
Mains, D.	1253 - 88th Street, Niagara Falls, N.Y.	14304	297-2260
Maron, W.	20 Williamstown Court, Cheektowaga, N.Y.	14225	895-5210
Mattoon, D.	1904 Youngstown-Lockport Road, Ransomville, N.Y.	14131	791-4928
Mazzei, T.	1323 Fort Avenue, Niagara Falls, N.Y.	14303	284-1593
Mills, T.	346 - 71st Street, Niagara Falls, N.Y.	14304	283-2874
Moeller, G.	202 Pine Street, Lockport, N.Y.	14094	434-5771
Montagna, S.	915 Ontario Avenue, Niagara Falls, N.Y.	14305	284-4937
Morreale, P.	2629 Niagara Street, Niagara Falls, N.Y.	14303	282-2027
Mullane, B.	531 Irving Drive, Lewiston, N.Y.	14092	285-8065
Murdoch, R.	160 South First Street, Lewiston, N.Y.	14092	754-4466
Murdoch, R.F.	4325 Isherwood Drive, Niagara Falls, N.Y.	14305	297-3197
Myers, J.	2928 Portland Avenue, Niagara Falls, N.Y.	14305	285-2311
Nalbome, J.	2921 Jerauld Avenue, Niagara Falls, N.Y.	14305	297-6669
Noakes, R.	227 - 67th Street, Niagara Falls, N.Y.	14304	283-2873
Pearson, R.	1058 Garden Avenue, Niagara Falls, N.Y.	14305	282-0781
Paonessa, P.	224 - 76th Street, Niagara Falls, N.Y.	14304	283-8455
Penque, L.	457 - 25th Street, Niagara Falls, N.Y.	14303	284-1331
Perkins, R.	2813 Whirlpool Street, Niagara Falls, N.Y.	14305	282-3148
Phillips, D.	1830 Ontario Avenue, Niagara Falls, N.Y.	14305	285-5107
Piccirillo, A.	2616 Parkview Drive, Niagara Falls, N.Y.	14305	297-6123
Pierce, L., Jr.	3309 Rhode Island Avenue, Niagara Falls, N.Y.	14303	284-5898
Pippard, R.	4621 Miller Road, Niagara Falls, N.Y.	14304	297-4501
Printup, W.	Walmore Road, Box 116, Sanborn, N.Y.	14132	297-1521

N A M E	A D D R E S S	Z I P	TELEPHONE
Reigle, J.	544 Fifth Street, Niagara Falls, N.Y.	14301	284-5091
Rew, R.	2422 LaSalle Avenue, Niagara Falls, N.Y.	14301	297-8163
Reynolds, A.	6325 South Whitham Drive, Niagara Falls, N.Y.	14304	297-0157
Rimer, W.	4955 Sunny Acres, Niagara Falls, N.Y.	14304	297-2445
Robertson, W.	1294 Ridge Road, Lewiston, N.Y.	14092	754-8390
Romano, P.	2912 Jerauld Avenue, Niagara Falls, N.Y.	14305	297-6627
Rusk, A.	2251 LaSalle Avenue, Niagara Falls, N.Y.	14301	297-7786
Saunders, L.	1024 Ferry Avenue, Niagara Falls, N.Y.	14301	284-1489
Scalzo, F.	994 Ridge Road, Lewiston, N.Y.	14092	754-7738
Scott, L.	3827 River Road, Youngstown, N.Y.	14174	745-3658
Scott, W.	325 N. Fourth Street, Lewiston, N.Y.	14092	754-8866
Sharrow, P.	1894 Upper Mountain Road, Lewiston, N.Y.	14092	297-2018
Shepherd, L.	2502 East Falls Street, Niagara Falls, N.Y.	14303	282-7790
Simone, J.	17 "D" Street, Niagara Falls, N.Y.	14303	282-0589
Skoff, R.	2202 Niagara Falls Boulevard, Niagara Falls, N.Y.	14304	731-9685
Skoff, R., Jr.	2202 Niagara Falls Boulevard, Niagara Falls, N.Y.	14304	731-9685
Skrzypek, F.	3220 Portland Street, Niagara Falls, N.Y.	14305	284-8781
Smith, Ed	2418 McKenna Avenue, Niagara Falls, N.Y.	14303	284-0163
Smith, Ernest	455 Oak Street, Youngstown, N.Y.	14174	745-9947
Smithson, J.	1602 - 98th Street, Niagara Falls, N.Y.	14304	297-3671
Sosby, G.	803 - 90th Street, Niagara Falls, N.Y.	14304	283-1094
Stahlman, J.	451 Memorial Parkway, Niagara Falls, N.Y.	14303	285-6385
Stefik, J.	6052 Devlin Avenue, Niagara Falls, N.Y.	14304	283-0082
Steinman, R.	Coolidge Beach, Wilson, N.Y.	14172	751-5766
Stevens, G.	5898 Garlow Road, Niagara Falls, N.Y.	14305	297-2363
Stiner, A.	808 Pine Avenue, Niagara Falls, N.Y.	14301	284-5644
Stiner, L.	2428 Cleveland Avenue, Niagara Falls, N.Y.	14305	285-4783
Sumers, G.	1947 Lockport Street, Niagara Falls, N.Y.	14305	285-1758
Testa, T.	1060 - 100th Street, Niagara Falls, N.Y.	14304	283-8246
Theis, A.	4230 Crescent Drive, Niagara Falls, N.Y.	14305	284-7304
Thomas, R.	6129 Lockport Road, Niagara Falls, N.Y.	14305	297-1705
Thomson, D.	2961 Ontario Avenue, Niagara Falls, N.Y.	14305	297-6517
Trane, P.	806 - 16th Street, Niagara Falls, N.Y.	14301	284-8643
Trude, W.	1254 - 86th Street, Niagara Falls, N.Y.	14304	283-9366
Utcig, S.	1622 Lockport Street, Niagara Falls, N.Y.	14305	284-1048
Wade, H.	532 Sixth Street, Niagara Falls, N.Y.	14303	285-2855
Wade, R.	8418 Richmond Avenue, Niagara Falls, N.Y.	14304	297-3752
Wade, W.	685 - 99th Street, Niagara Falls, N.Y.	14304	283-5551
Wagner, R.	519 Tronolone Place, Niagara Falls, N.Y.	14301	285-1657
Walker, H.	2017 Woodlawn Avenue, Niagara Falls, N.Y.	14301	282-8730
Walker, L.	1530 Swan Road, Lewiston, N.Y.	14092	754-4798
Walker, N.	485 North Fifth Street, Lewiston, N.Y.	14092	754-4028
Warrick, J.	3568 Ransomville Road, Ransomville, N.Y.	14131	791-4120
Washburn, R.	424 - 76th Street, Niagara Falls, N.Y.	14304	283-0752
Weinheimer, R.	6051 Ketchum Avenue, Niagara Falls, N.Y.	14108	778-7093
Weinreber, G.	405 Onondaga Street, Lewiston, N.Y.	14092	754-7520
Williams, T.	1073 Sweethome Road, Niagara Falls, N.Y.	14305	297-3583
Wilsoncroft, G.	2252 Baseline Road, Grand Island, N.Y.	14072	773-4933
Woods, C.J.	1526 Pierce Avenue, Niagara Falls, N.Y.	14301	285-7939
Worley, C.	2749 Whitney Avenue, Niagara Falls, N.Y.	14301	297-7926
White, R.	1821 South Avenue, Niagara Falls, N.Y.	14301	282-1627
Zimmer, L.	3080 Woodland Avenue, Niagara Falls, N.Y.	14304	297-2296
Zimmerman, L.	8657 Buffalo Avenue, Niagara Falls, N.Y.	14304	283-7760

Page 7

EMERGENCY EQUIPMENTA. First Aid Equipment

Location #1 First Aid Office - Building 1A  
 Location #2 Metal Chlorides First Aid Lockers - Building 53  
 Location #3 Conference Room - Main Office - Building 51

B. Stretchers wtih blankets

Location #1 First Aid Washroom: One adjustable pole stretcher, one wooden splint stretcher, one chair-stretcher combination and one cardboard stretcher - Building 1A  
 Location #2 Pump Room across from door of Personnel Office: One canvas army type litter. Building 31.  
 Location #3 Carbon Tet. Pipe Shop Passageway: One canvas army type litter Building 12A  
 Location #4 Electric Shop inside door: One navy stokes wire basket stretcher - Building 14.  
 Location #5 Inside west door Boiler House: one cardboard type stretcher Building 19.  
 Location #6 Metal Chlorides Washroom: One canvas army type litter and one cardboard stretcher - Building 53.  
 Location #7 Old Storeroom by Civil Defense Locker: Three reserve army type litters - Building 2.

C. Emergency oxygen inhalators

Location #1 First Aid Room: Two large tanks, three automatic masks and one portable oxygen inhalator - Building 1A  
 Location #2 Metal Chlorides Shift Foreman's Office: One portable H&H inhalator and two Lif-O-Gen oxygen units, one portable unit - Bldg 53.

D. Civil Defense Lockers

Location Storeroom - Blankets, bandages, stretcher, etc. Building 2.

E. All-Purpose Emergency Masks

Location #1 Guard House: Eight complete masks - Bldg. 30  
 Location #2 Outside Northwest corner Electric Shop: Two complete masks-Bldg 14.  
 Location #3 Chlorine-Cabinet Center of Bldg.: One complete mask - Bldg 24A.  
 Location #4 Inside Southwest door Salt & Brine: One complete mask. Bldg 34.  
 Location #5 Metal Chlorides Locker Room: Four masks - Bldg. 53  
 Location #6 Lab inside east door: Three masks - Bldg. 29  
 Location #7 Boiler House inside west door: Two masks - Bldg. 19

SCOTT AIR PAK LOCATIONS

Location #1	NYO Building west of Maintenance Shop Bldg. 1.
Location #2	Emergency Fire Pump Building - inside door - Bldg. 31.
Location #3	Shift Leaders Office - inside door - Bldg. 6.
Location #4	Outside building - northwest corner Electrical Shop - Bldg 14.
Location #5	Evaporators - inside east door maintenance room - New annex - Bldg. 16A.
Location #6	Boiler House - adjacent to instrument panel - Bldg. 19
Location #7	Chlorine Building - inside east door next to #2 Cell House - Bldg 24.
Location #8	Cell House Foreman's Office - inside door - Bldg. 32C
Location #9	Cell House #2 - Outside northwest door - Bldg. 32.
Location #10	Salt & Brine Bldg - inside southwest door - Bldg. 34.
Location #11	Metal Chlorides - inside door east building of locker room - two air paks - Bldg. 53.
Location #12	Chemical Laboratory - inside east door near desk - Bldg. 29.
Location #13	In passageway between #1 Rectifier Room and #1 C.H. - Bldg. 14
Location #14	Air Line Units - In large cabinet at east end of 1st floor of new storeroom - Bldg. 44.

MINE SAFETY "6 MINUTE" PAK LOCATIONS

Location #1	Shipping Foreman's Office - two units - Bldg. 33
Location #2	Shift Leaders Office - south wall - one unit - Bldg. 6.
Location #3	Carbon Tetrachloride 2nd floor east wall - one unit - Bldg. 8
Location #4	Chlorine House Mechanic Shop - two units (old salvage bldg) Bldg. 25.

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## STAUFFER CHEMICAL COMPANY

NIAGARA FALLS, NEW YORK

<u>DEPARTMENT</u>	<u>SHIFT A</u>	<u>SHIFT B</u>	<u>SHIFT C</u>	<u>SHIFT D</u>
Shift Foremen	W. McDougall *	G. Lampman	V. Hoffman *	W. Weinheimer *
Shift Leader	R. Colliver *	F. Barrett *	L. Pierce	G. Weinreber *
Boiler House	J. Stahlman * A. Stiner *	F. Eisenman * D. Kenyon	E. Kightlinger* E. Fleck	R. Thomas * P. Adams *
CTC	J. Warrick *	J. Lunsford *	G. McCulloch	F. Birmingham*
Evaporators	W. Trude * W. Robertson* W. Scott *	A. Piccirillo G. Sosby * A. Theis	A. Reynolds * J. Ivey * R. Washburn*	J. Dominski * C. Freberg * F. Hutton *
Liquid Chlorine	L. Penque *	E. Dupras	D. Mattoon	J. Woods *
#1 Cell House	P. Paonessa*	G. Hanna	T. Williams*	L. Lutz *
#2 Cell House	W. Kenyon	D. DelGrosso	D. Phillips*	D. Adams *
Metal Chlorides	H. Wade * T. Glass D. Mains J. Nalbene	J. Hilton * F. Scalzo H. Andrews L. Shepherd	K. Barr K. Currie * L. Zimmerman W. Maron	F. Henry * R. Noakes E. Smith
Antimony	R. Krebs	E. Brennen	C. Aswad	
Liquid Caustic Filters	C. Johnson	L. Caughill		

RELIEF OPERATORS

Shift Foremen	R. Kephart, F. McInally, G. Brooks
Shift Leader	W. Ashker
Boiler House	J. Kelly
Carbon Tetrachloride	T. Biamonte
Evaporators	L. Saunders, R. Pearson, G. Greenwald
Liquid Chlorine	R. Burt
#1 Cell House	W. Rimer
#2 Cell House	T. Gregorchik
Metal Chlorides	G. Moeller, R. Wagner

\* Employee has had First Aid Training

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